



UNIVERSITAS AIRLANGGA

# ORKESTRASI KAPABILITAS DINAMIS UNTUK MENINGKATKAN DAYA SAING BANGSA

**BADRI MUNIR SUKOCO**

**Forbes** / Opinion / #BigBusiness

NOV 29, 2016 @ 01:37 PM 2,161,790  EDITOR'S PICK

# Thanks To 'Fight For \$15' Minimum Wage, McDonald's Unveils Job-Replacing Self-Service Kiosks Nationwide



**Capital Flows**, CONTRIBUTOR

*Guest commentary curated by Forbes Opinion. Avik Roy, Opinion Editor.* [FULL BIO](#) 

Opinions expressed by Forbes Contributors are their own.









# McDonald's hits all-time high as Wall Street cheers replacement of cashiers with kiosks

- Cowen says McDonald's will upgrade 2,500 restaurants to its "Experience of the Future" technology by year-end, which includes digital ordering kiosks.
- The firm raises its rating on McDonald's to outperform from market perform and price target for the shares to \$180 from \$142.
- Same store sales estimate for 2018 raised to 3 percent from 2 percent.

Tae Kim | [@firstadopter](#)

Published 11:30 AM ET Tue, 20 June 2017 | Updated 4:22 PM ET Thu, 22 June 2017



INDEPENDENT

[News](#) › [Business](#) › [Business News](#)

# Wendy's replacing workers with machines because of rising wage cost

Wendy's operates more than 6,500 restaurants in the US and in 29 other countries worldwide

[Hazel Sheffield](#) | Wednesday 18 May 2016 10:15 BST | [0 comments](#)



## **Burger-making robot, 'Flippy,' that cooks the perfect patty every time set to replace human workers in 50 California restaurants by 2018**

- The robot is fitted with a 6-axis arm and a claw-like tool to grab and flip burgers
- It uses AI to determine when they're done and alert staff to finish preparation
- It will launch in 50 CaliBurgers sooner than expected after a \$3M investment

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By [SAGE LAZZARO FOR DAILYMAIL.COM](#)

**PUBLISHED:** 22:20 BST, 13 September 2017 | **UPDATED:** 22:25 BST, 13 September 2017

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The Fourth Industrial Revolution  
World Economic Forum

<https://www.youtube.com/watch?v=SCGV1tNBoeU>



# CONTOH PEKERJAAN YANG AKAN HILANG KARENA MASA DEPAN OTOMASI

Medical diagnosis

Loan officers

Delivery people

Cashier

Accountants

Security Guard

Drivers

Most  
factory  
workers

Retail Salesperson

“

Creativity is the  
New Economy

Richard Florida (2012) ”

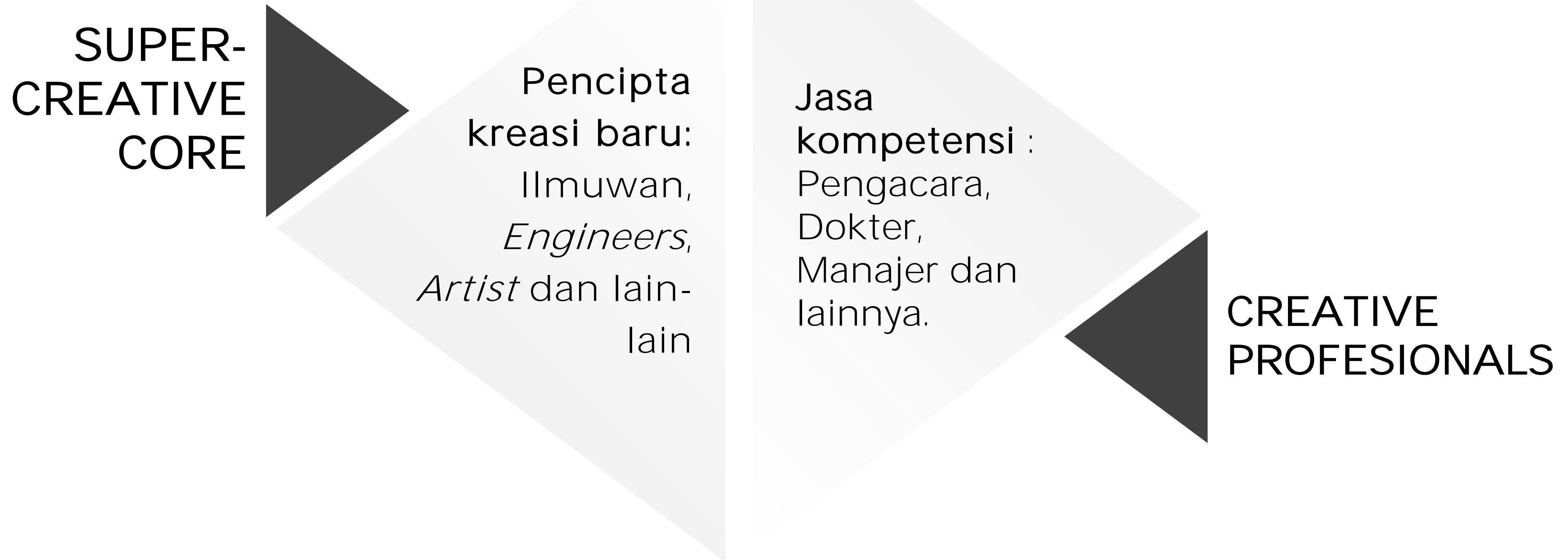


# PERINGKAT CREATIVE CLASS

	PERINGKAT	NEGARA	PROPORSI CREATIVE-CLASS
Tiga teratas	1	Luxembourg	53.68
	2	Bermuda	47.96
	3	Singapore	47.3
Negara dengan populasi besar	34	United States	32.61
	61	Brazil	20.12
Negara di ASEAN	49	Malaysia	24.05
	56	Philippines	21.33
	81	Thailand	9.85
	82	Vietnam	9.83
	86	Indonesia	7.95

Sumber : Martin Prosperity Institute (2015)

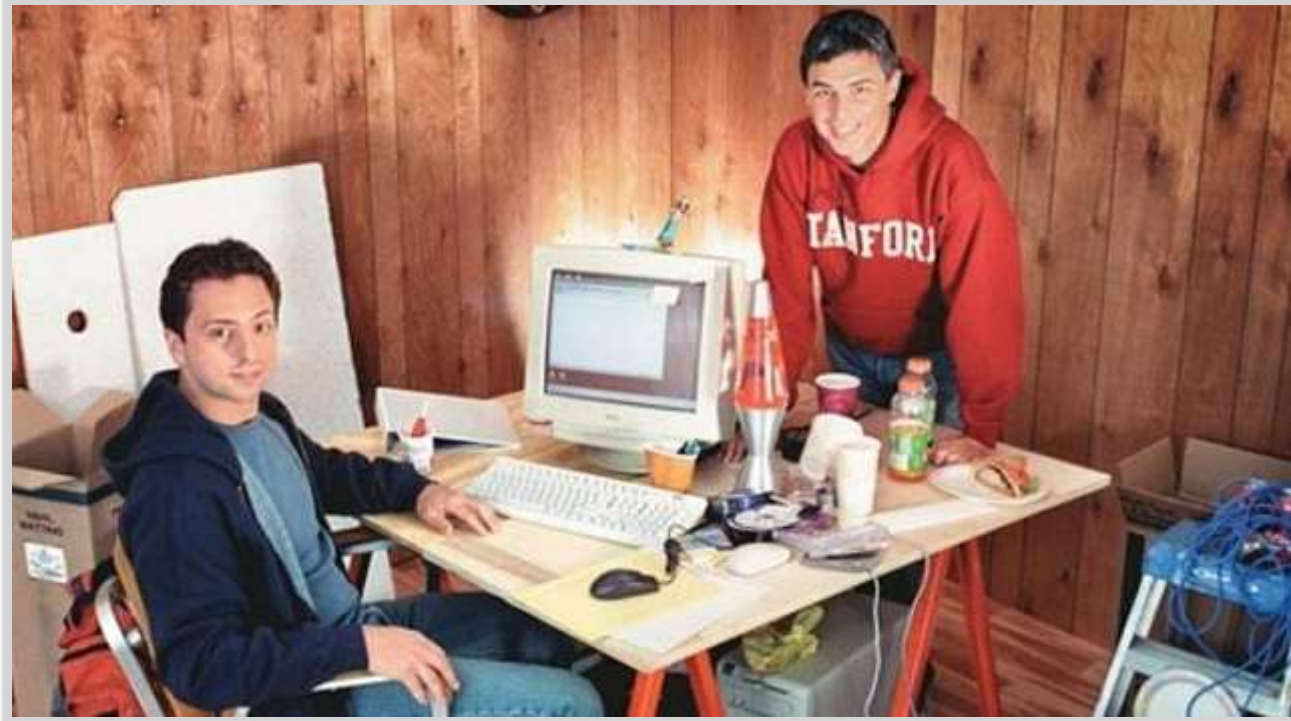
# CREATIVE CLASS



Sumber : Florida (2012)



# SUPER-CREATIVE CORE



Larry Page dan  
Sergey Brin  
(Google)

Edwin  
Catmull  
(Pixar)



Sehat  
Sutardja  
(Marvell)



Nadiem  
Makarim  
(Go-Jek)







Succeeding in the New Global Economy

# U.S. workers face higher risk of being replaced by robots. Here's why

by Alanna Petroff @AlannaPetroff



**FORTUNE** | Tech

POINTCLOUD

# Automation, Robots, and Job Losses Could Make Universal Income a Reality

Barb Darrow

May 24, 2017



**BUSINESS  
INSIDER**

# Google Has Started Hiring More People Who Didn't Go To College

Max Nisen ⌚ Jun. 20, 2013, 2:58 PM 🔥 356,755

**HUFFPOST**

UNITED KINGDOM

# **Ernst & Young Removes University Degree Classification From Entry Criteria As There's 'No Evidence' It Equals Success**

🕒 04/08/2015 14:55 | Updated 17 August 2017



**theguardian**

The death of universities

Terry Eagleton

Academia has become a servant of the status quo. Its malaise runs so much deeper than tuition fees

THE CHRONICLE OF HIGHER EDUCATION NEWS

THE CHRONICLE REVIEW

# The Slow Death of the University

*By Terry Eagleton* | APRIL 06, 2015  PREMIUM CONTENT FOR SUBSCRIBERS. **SUBSCRIBE TODAY**

**Forbes** / Education / #OnCampus

OCT 6, 2016 @ 10:24 AM 8,979

# The Death Of A University? The Sad Story Of Chicago State



**CCAP**, CONTRIBUTOR

*We are dedicated to researching the rising costs in higher education.* [FULL BIO](#) ▾

Opinions expressed by Forbes Contributors are their own.





Apa yang harus  
dilakukan Universitas  
di Indonesia agar  
Relevan dengan  
Revolusi Industri 4.0?



# STRATEGIC ORIENTATION



MARKET-DRIVEN

MARKET-DRIVING

## ORGANIZATIONAL AND BUSINESS RESOURCE BASE

### SENSING

### SEIZING

### RECONFIGURING

#### LEVEL 3 CORPORATE

- Identification of target markets
- Transactive memory system

- Recognizing inflexion points and complementarities
- Selecting organizational boundaries

- Investment into new business fields
- Divestment of business units
- Alliancing



#### LEVEL 2 BUSINESS

- Customer and supplier contacts
- Processes to direct internal R&D

- Business model decisions
- Local leadership
- Open innovation

- Adjustments of value propositions
- Changes in marketing programs



#### LEVEL 1 INDIVIDUAL

- Sensemaking

- Heuristics

- Endowment effect in decision making



### ENABLERS

# DIKOTOMI HOUSE OF DCs

PERAN  
PERGURUAN  
TINGGI

(Florida, 2012)

Creative Professionals

Super-creative Core

(March, 1991)

Mengeksploitasi  
pengetahuan

Mengeksplorasi  
peluang baru

Proses  
kontinyu

Rekonfigurasi  
model bisnis

Pasar sekarang

Pasar baru



**MARKET-DRIVEN**

**MARKET-DRIVING**

(Wilden dkk., 2016)





**STRATEGIC  
ORIENTATION**

**MARKET-DRIVEN**

**MARKI**

**ORGANIZATIONAL AND BUSINESS**

**SENSING**

- Identification of target markets
- Transactive memory system

**SEIZING**

- Recognizing inflexion points and complementarities
- Selecting organizational boundaries

**LEVEL 3  
CORPORATE**





**RAPID URBANIZATION**  
megacities  
sharing economy  
tale of two middle class



**CHANGING DEMOGRAPHICS**  
She-economy  
gen zeneration  
gig economy



**HYPER GLOBALIZATION**  
big data & AI  
intelligence on tap  
digital health

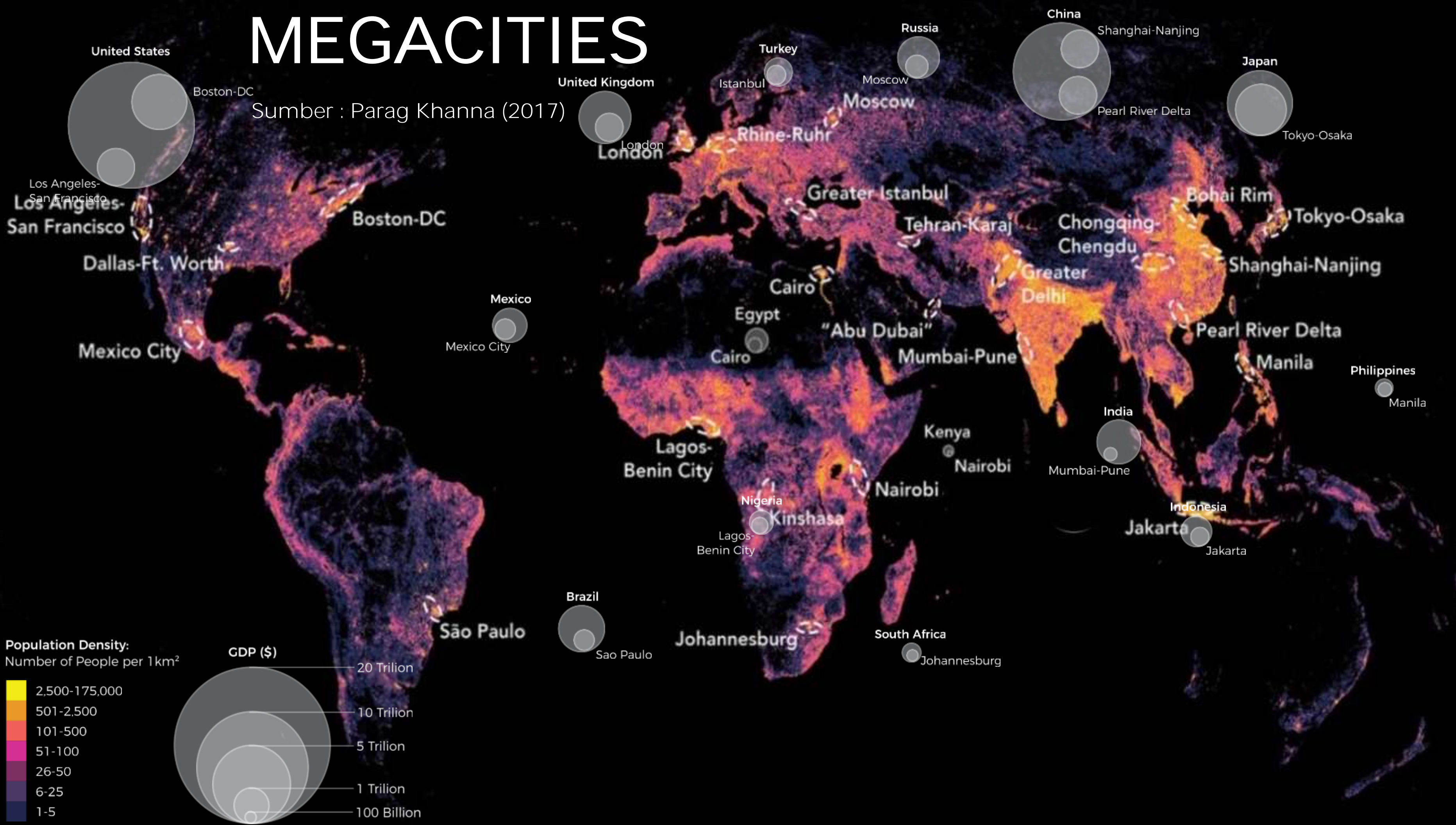


**ACCELERATED INNOVATION**  
human 2.0  
digital health  
test tube food



# MEGACITIES

Sumber : Parag Khanna (2017)



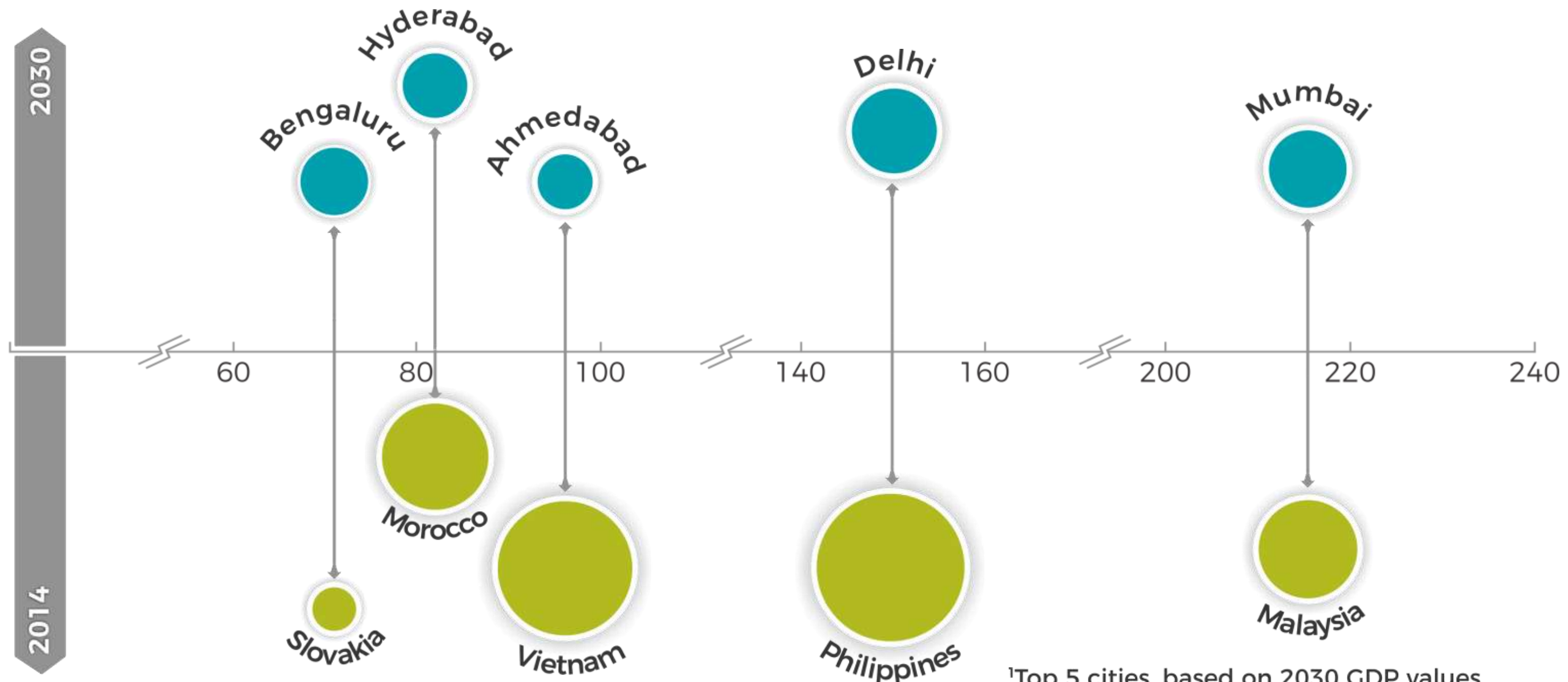


# LIMA BESAR KOTA DI INDIA

By 2030, the economies of India's top five cities will be comparable to those of middle-income countries today.

Real GDP<sup>1</sup>,  
\$ billion, 2005 prices

○ Size of bubble proportionate to population, ranging from 5 million to 99 million



<sup>1</sup>Top 5 cities, based on 2030 GDP values

Source: World Bank; McKinsey Global Institute analysis

# MEGACITIES DIDUKUNG OLEH UNIVERSITAS KELAS DUNIA



# CALIFORNIA - NEGARA BAGIAN TERBESAR

## (SKALA EKONOMI)



University	THE World University Rankings	QS World University Rankings	Academic Ranking of World Universities
Stanford University	3	2	2
California Institute of Technology	2	4	8
UC Berkeley	10	27	3
UCLA	14	33	12
University of Southern California	60	-	49
UC San Diego	41	38	14
UC Santa Barbara	48	-	42
UC Davis	51	-	75
UC Irvine	98	-	58
UC San Francisco	-	-	21
UC Santa Cruz	-	-	83



# KLASTER BOSTON-NEW YORK-PENNSYLVANIA



University	THE World University Rankings	QS World University Rankings	Academic Ranking of World Universities
Harvard University	1	3	1
Massachusetts Institute of Technology	2	1	5
Princeton University	7	13	6
Yale University	8	16	11
Columbia University	12	18	7
University of Pennsylvania	19	19	18
Carnegie Mellon University	37	47	68
New York University	25	52	29
Boston University	81-90	81	75
Pennsylvania State University	61-70	93	77

# INGGRIS RAYA - MEGACITY TERBESAR (SKALA EKONOMI) DI EROPA



University of Oxford	1	6	7
University of Cambridge	4	5	4
Imperial College London	8	8	22
University College London	15	7	17
London School of Economics	25	35	3
King's College London	36	23	50

# CREATIVE CLASS

3T (Florida, 2002)

01

Best universities attract the best **talents** from around the world in any fields

02

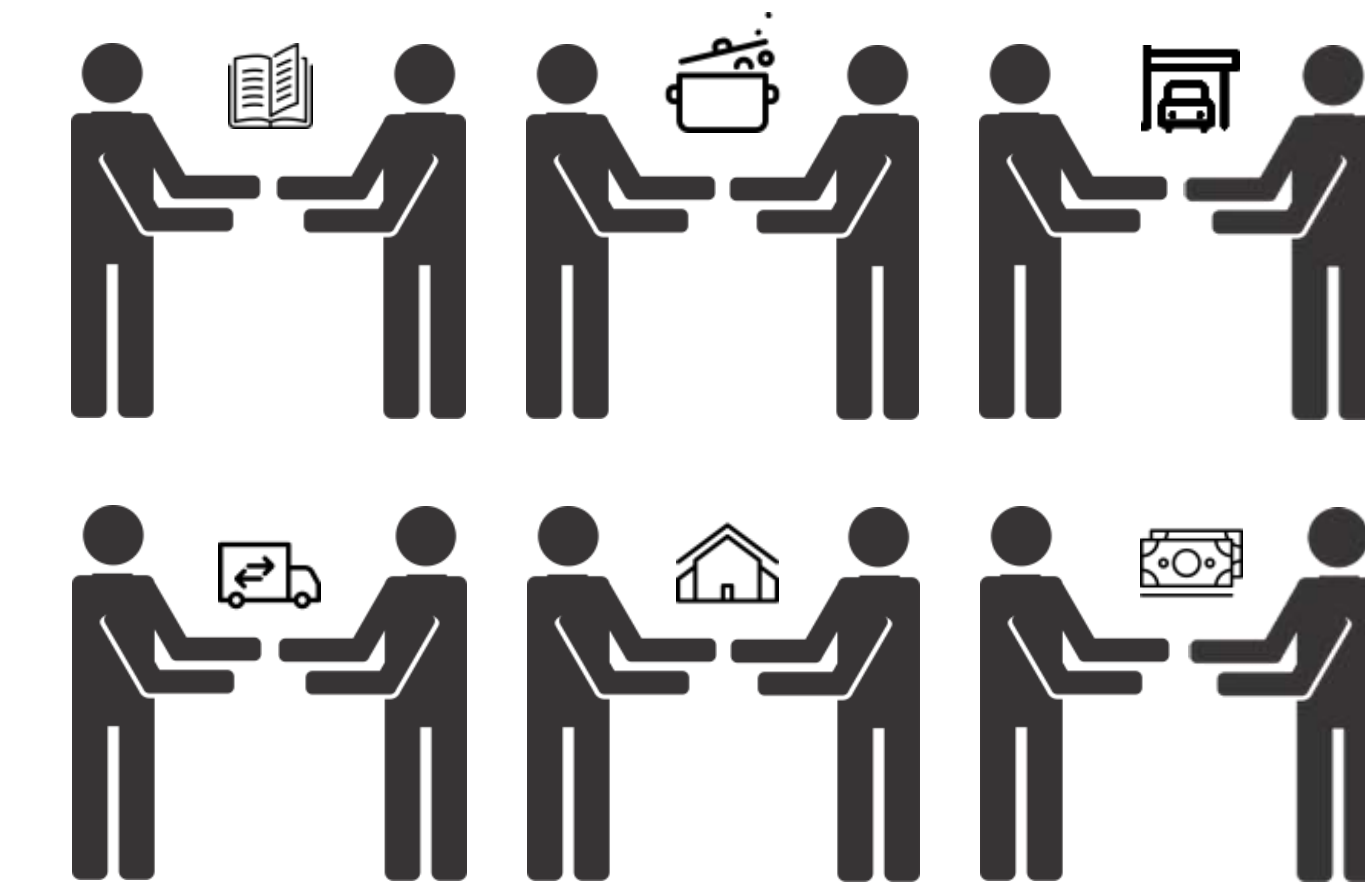
Best universities develop and apply the most advanced **technology**

03

Best universities nourish **tolerance**



# EKONOMI - BERBAGI



UBER

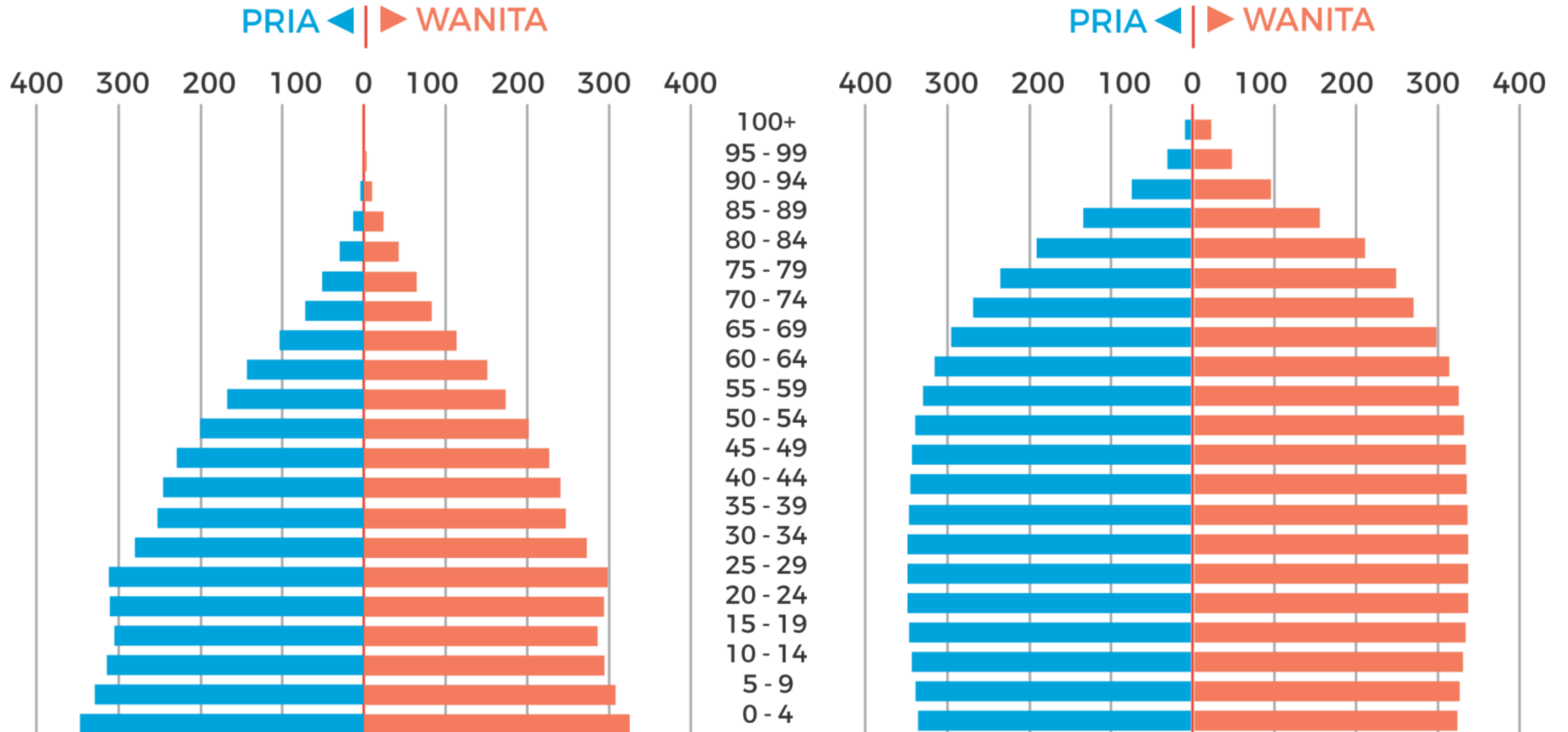


# DEMOGRAFI - PIRAMID POPULASI

Pupolasi Global berdasarkan usia dan jenis kelamin

2015

proyeksi 2100



Source: UN Population Division

# SHE-ECONOMY

Women are increasingly participating in the labor force, making up 1/3 of the incoming CEO class by 2040

Women are primary breadwinners in over 40% of U.S. households, and make 85 percent of all consumer purchases

If women play an identical role as men in the labor market it could add \$28 trillion to global GDP by 2025

Women in the global labor force



Source: WEF Global Gender Gap Report 2015

Personal Wealth Controlled by Women in the US



Women's Earnings in China



Sources: BMO, Bloomberg, BCG

>9.4 million

firms owned by women



7.9 million employees  
and \$1.5 trillion in sales

Sources: McKinsey, NAWBO

Improving economic conditions and changing attitudes are ushering women into the world economy in massive numbers



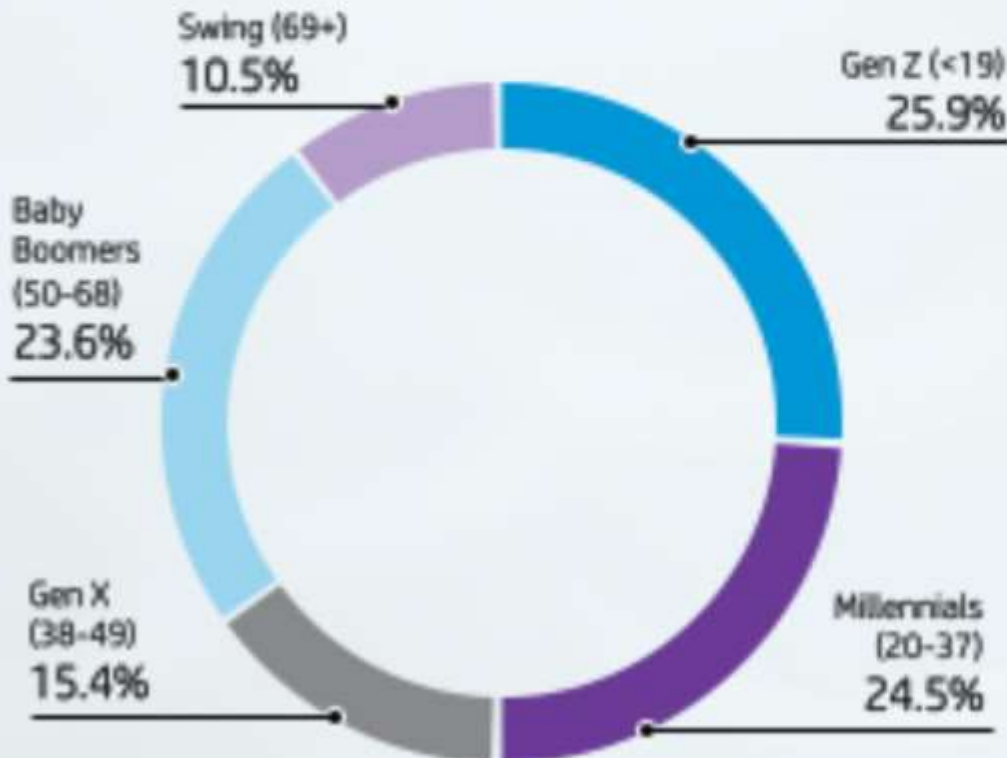
# GEN-ZENERATION

Gen Z is already a significant cohort, with a population of over 2.6 billion globally, and 26% of the US population

Technology is part of the Gen Z DNA

Members of Gen Z have different views on work and business

US Population Distribution by Generation (2015)



Source: US Census Bureau

- 91% have access to the internet
- 79% have a smartphone
- 83% play games on a phone or tablet
- 20% read textbooks on tablets
- 78% use internet banking or a banking app
- 78% purchase products online

Sources: TNS New Zealand, JWT

Compared to Millennials, Gen Z is:

55% More likely to want to start a business and hire others

54% More likely to say they want to have an impact on the world

77% believe businesses should make 'doing good' a central part of their business, and not just by giving to charity

Sources: Sparks & Honey, Millennial Branding, Salt

Generation Z is the first generation of digital natives with a new set of expectations and a different style of working



# GIG ECONOMY

The "gig" workforce is growing >5X faster than overall workforce growth



US employment growth



Gig workforce growth

Source: PMG

The gig economy will make a major contribution to economic growth



In 2015:  
Economic contribution of \$1.15trillion

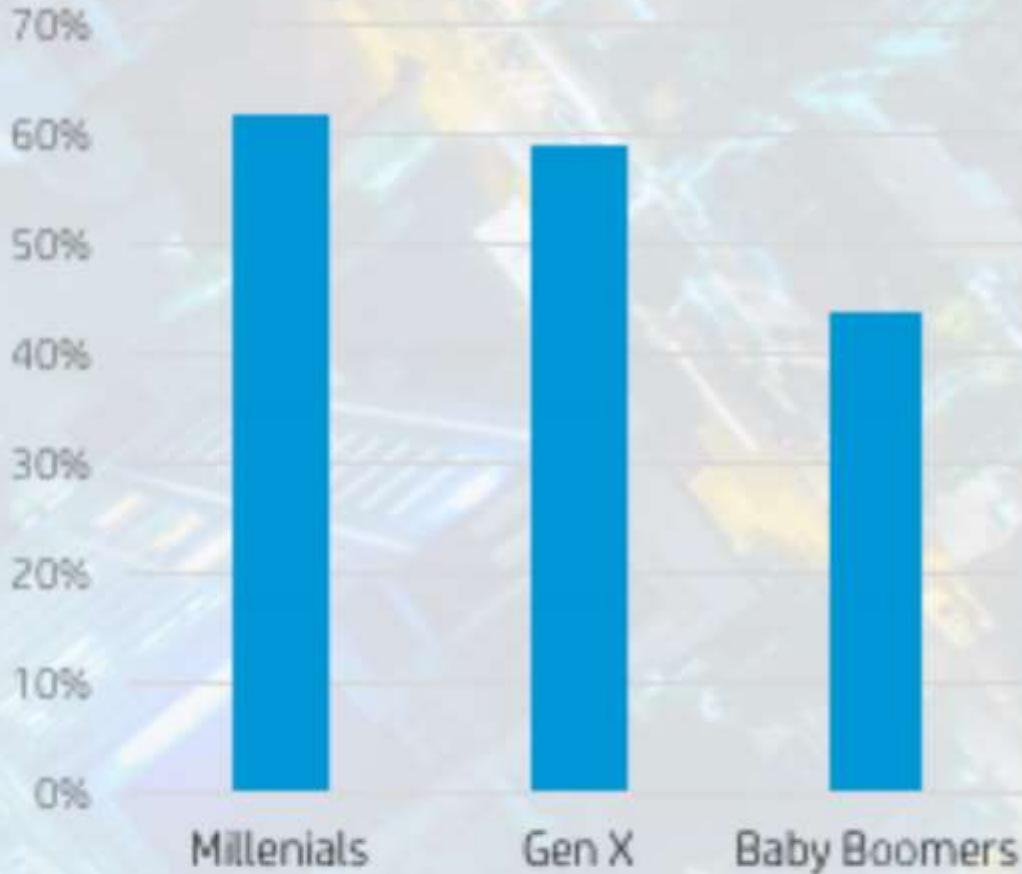


In 2015:  
Economic contribution of £109billion

Source: MBO Partners and IBI Times

Millennials and Gen X are more likely to be gig workers

Willingness to work in contract positions



Sources: Addison Group/Edelman Intelligence

Changing Demographics and attitudes, enabled by new digital platforms, are changing the way we work



# WATSON *for* PRESIDENT





A laptop is shown from a front-facing perspective, displaying a webpage. The webpage has a white background with a black border. At the top left, there is a red rectangular box containing the word "Newsweek" in white, bold, sans-serif font. Below this, the text "TECH & SCIENCE" is written in red, bold, sans-serif font. The main headline, "COULD A ROBOT RUN FOR PRESIDENT IN 2020?", is in large, bold, black, sans-serif font. Below the headline, the byline "BY ANTHONY CUTHBERTSON ON 2/16/16 AT 6:29 AM" is in a smaller, black, sans-serif font, with "ANTHONY CUTHBERTSON" in red.

**Newsweek**

**TECH & SCIENCE**

# **COULD A ROBOT RUN FOR PRESIDENT IN 2020?**

BY **ANTHONY CUTHBERTSON** ON 2/16/16 AT 6:29 AM

It's now possible to automate even  
high-level cognitive jobs



Robot CEO:  
Your next boss could run on code



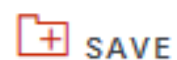
**Harvard  
Business  
Review**

LABOR

# Here's How Managers Can Be Replaced by Software

by **Devin Fidler**

APRIL 21, 2015



SAVE



SHARE



COMMENT



TEXT SIZE



PRINT

**\$8.95**

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# DIGITAL HEALTH

Growing healthcare challenges from rise in patients with chronic diseases, healthcare cost and doctor shortage

190M

Number of Americans affected by 1 or more chronic diseases

\$42T

Total cost of chronic disease from 2016-2030 in U.S.

90,000

U.S. Doctor shortfall by 2025

Source: Partnership to Fight Chronic Disease and A.D. Little

Digital healthcare a large and growing market

Digital Health Market 2013-2020 (\$bn)



4Ps of Healthcare

Predictive  
Preventative  
Personalized  
Participatory

Source: A.D. Little, 2016

Prevention to elimination is plausible thanks to exponential technology growth

Healthcare 2.0:  
Computing + AI + Machine Learning  
+ Big Data+ Sensors

Faster, Cheaper Genomics

Sequence a genome in a day @ \$1000

Reduced Drug Development Time

Data analysis reduced from 2 days to 1 min

Increasing Connectivity

Sensors increase data accuracy & frequency for improved care

Managing Big Data

Healthcare data doubles every 24 months

Sources: 10000 Genomes Project, Genome.gov, Inventis

Digital health funding hit a new high in 2015, reaching nearly \$6B



# Precision Medicine - Paradigm Shift



*Application of rules, algorithms and reference databases enables ACTIONABLE clinical decision support & PRECISE/EFFICIENT care*

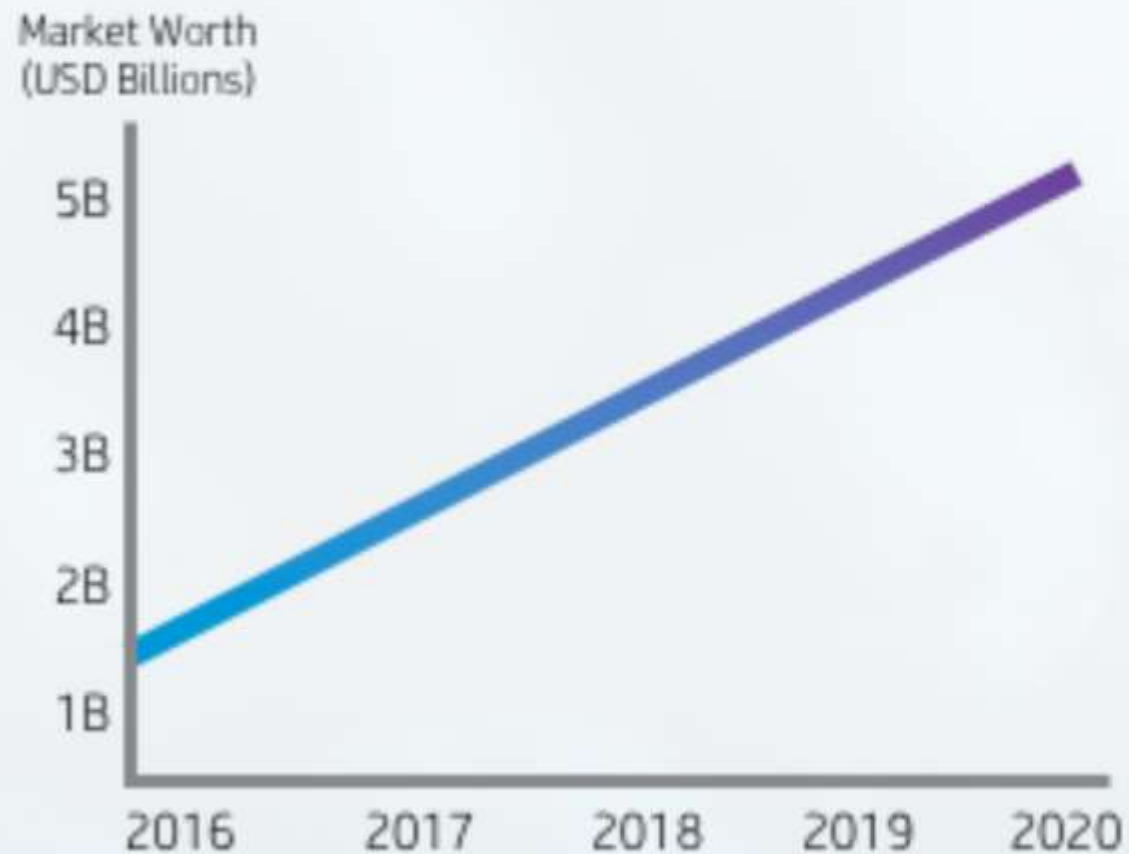




# TEST TUBE FOOD

Plant-based substitutes of meat with the same nutritional value & taste will offset rising demand

Plant-Based Meat Market to Reach \$5.2 Billion by 2020



Source: MarketsandMarkets

New tech analyzes what we are eating in real-time



Source: TellSpec

Robotic chefs have the potential to change food preparation



Source: Moley

Innovation in technology is allowing the manufacture of next-gen food replacements, from lab-cultured meat to vegan milk and eggs



# A startup is growing faux shrimp meat in the lab using algae



A startup called New Wave Foods is developing artificial shrimp meat in the laboratory, urged by environmental destruction and the other troubles brought about by commercial fishing.

The team is currently testing different ways of extracting proteins from algae that the crustaceans eat, mixing and mashing them together with protein gels to create the meat. So far, they've already nailed the taste, but mimicking the seafood's texture is proving to a bit more difficult.

*Source: Engadget, Nov 2015*



# Startup making real meatballs in a lab without killing any animal



A Bay Area-based startup called Memphis Meats has figured out how to make a real meatball in the lab using beef cells, no livestock required.

The cost to make lab-grown meat has dropped dramatically recent years. When Mark Post, a researcher at Maastricht University in the Netherlands, created a burger made from lab-grown meat in 2013, it cost \$325,000. In 2015, Post said that he'd been able to bring the price down to just over \$11 for a burger.



# STRATEGIC ORIENTATION

MARKET-DRIVEN

MARKET-DRIVING

## ORGANIZATIONAL AND BUSINESS RESOURCE BASE

### SENSING

Identification of target markets  
Transactive memory system

Customer and supplier contacts

### SEIZING

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- Selecting organizational boundaries

- Business model decisions

### RECONFIGURING

- Investment into business fields
- Divestment of business fields
- Alliancing

- Adjustments of value propositions

# SEIZING - KOMITMEN DAN INVESTASI

	<i>Market-Driven</i>	<i>Market-Driving</i>
Pendidikan	Dosen perlu re-skilled (SAME, re-training)	Rekrut dosen baru yang relevan dengan Revolusi Industri 4.0 (koordinasi dengan LPDP, Kemenristekdikti, dan BAPPENAS)
	<i>Staffs and students exchange</i> ke universitas partner	
	Digitalisasi pendidikan - MOOC	
Penelitian	50% dana penelitian untuk topik yang relevan Revolusi Industri 4.0	10-20% dana penelitian untuk eksplorasi topik-topik penelitian baru
Pengabdian Masyarakat	Menyiapkan masyarakat menghadapi Revolusi Industri 4.0	Aktif berkolaborasi dengan skema ABG



# STRATEGIC ORIENTATION

-DRIVEN

MARKET-DRIVING



## INTERNAL AND BUSINESS RESOURCE BASE

### SEIZING

- Recognizing inflexion points and complementarities
- Selecting organizational boundaries

### RECONFIGURING

- Investment into new business fields
- Divestment of business units
- Alliancing



# TRADISIONAL VS UNIVERSITAS ONLINE (Chistensen and Eyring, 2011)



		Traditional University Trait	Online University Copied?
Harvard College 1636 - 1707	Face-to-face instruction	✓	✗
	Long summer reces	✓	✗
	Shared faculty for undergraduate and graduate programs	✓	✗
Charles W. Eliot 1869 - 1909	Comprehensive specialization, departmentalization, and faculty self-governance	✓	✗
	Private fundraising	✓	✗
	Competitive athletics	✓	✗
	Curricular distribution (GE) and concentration (majors)	✓	Focused Offerings
Lawrence Lowell 1909 - 1933	Academic honors	✓	✗
	Up-or-out tenure, with faculty rank and salary distinctions	✓	✗
	Admissions selectivity	✓	✗
James Conant 1933 - 1953	Externally funded research	✓	✗



**JawaPos.com**



**Nasional**

## **Nyelekit, Jokowi Sentil Mendikbud dan Menristekdikti**

JUMAT, 04 AUG 2017 11:28 | EDITOR : KUSWANDI

Home / News / Regional

# Jokowi Ingin Ada Fakultas Media Sosial di Universitas

KONTRIBUTOR BANDUNG, PUTRA PRIMA PERDANA

Kompas.com - 11/09/2017, 13:53 WIB



Cari Berita atau Alamat

Senin 11 September 2017, 12:39 WIB

## Jokowi: Harusnya Unpad Punya Fakultas Medsos Jurusan Meme

Danu Damarjati - detikNews



# RECONFIGURING

Mendirikan, *me-refresh* atau *menutup*  
fakultas/program studi yang kurang relevan

Meng-*hire* dosen-dosen baru yang  
sesuai dengan Revolusi Industri 4.0

