Why universities will change or they will die

SEE Into the Future

Almaty, May 27, 2015
(20 years left)
50% of graduates don’t work in their field

70% of students don’t get fundamentals

80% of graduates don’t speak foreign language
Education for paper, not for knowledge

Education inflation

Education devaluation
“I am getting more and more frustrated with the fact my university gives me no value”

3d year IT student
technical university in Almaty
runs own startup

conversation on May 16, 2015
Intro to algorithms

Programming & Robotics

Python programming language

Israel, S.Korea, US, Singapore, Finland

Kazakhstan
Intake of Indian students for engineering

China focuses on education

Sources: UNESCO (degrees, enrollment); China finance ministry, via CEIC Data (spending)
Graduates employment: considerations

School quality

Faculty training

Involvement of business

Salary, etc.

Technology

Labour mobility
Most likely you will find this fictitious
Future
Exponential growth
Real GDP for the last 2000 years
in 1990 USD
GDP per capita by region for 2000 years

Global data traffic (1990 - 2010)
in petabytes / mo
Data produced
in zettabytes

Source: Oracle, 2012
Machine age

- Next 10 years
- Last 50 - 100 years
David Yegembayev
my son
born Jan 2015
before 2015

Kasparov lost to computer
smartphones took over the market
computers understand human speech
robotic vacuum cleaners selling to consumers
voice calling is free
2015

- Consumer laptop app wins any human in chess play
- 90% of car production is robotised
- 3 - 4 min human operates jet in the air
- Smartphone prices fell below $100
- IT companies are valued the most
4 mo  5 years  15 years  25 years

2037

- population 8.7 bln
- 50% of work done by machines
- driving cars by human will become illegal
- nano-robots inside human body
- physical human brain connected to virtual brain
50% of work done by machines

- Financial analysts
- Accountants
- Programmers
- Consultants
- Doctors (partially)
business ?
technology ?
medicine ?
science ?
performing arts ?
Education severely falls behind

- academic programmes
- professors & faculty
- slow technology adoption
do we prepare these professors TODAY?
Universities will be changed. Or they will die

(c. 20 years left)

Risk:
- business schools
- law schools
- medical universities

Prospects:
- engineering
- science
- arts
most universities are not capable to teach things we don’t know predict labor market in 10 years from now produce globally competitive labour
Universities create future jobless
Labour productivity & employment (1947 - 2010)

shall we create even more employees?
Huge gap between poor and wealthy

FYI: watch gap in EU in 2015
YOU COMPETE
(and you will 100% loose)

YOU CREATE
(and you will have chances)
Entrepreneurship

commercially viable
creativity + innovation
Can universities teach entrepreneurship?
entrepreneurs teach entrepreneurs

sharpen skills in real fight
we can’t teach things we don’t know

teach basics
teach to learn
develop culture
creative environment
Magna Charta Universitatum

Signed by c. 400 Universities in Bologna, 1988

MAGNA CHARTA UNIVERSITATUM

Preamble

The undersigned Rectors of European Universities, gathered in Bologna for the ninth centenary of the oldest University in Europe, four years before the definitive abolition of boundaries between the countries of the European Community; looking forward to far-reaching co-operation between all European nations and believing that people and States should become more than ever aware of the part that universities will be called upon to play in a changing and increasingly international society,

Consider

1. that at the approaching end of this millennium the future of mankind depends largely on cultural, scientific and technical development; and that this is built up in centres of culture, knowledge and research as represented by true universities;

2. that the universities’ task of spreading knowledge among the younger generations implies that, in today’s world, they must also serve society as a whole; and that the cultural, social and economic future of society requires, in particular, a considerable investment in continuing education;

3. that universities must give future generations education and training that will teach them, and
education
I want
for my son

not for diploma
not for knowledge
for the mindset

20% fundamentals
80% real fight

support for creativity
motivate to learn
PS. Mobility is No 1 threat (and opportunity) in the next 10 years
we make cars smart and connected