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Keynote address

Institutional Research at a Crossroads: The Impact of Technology and Global Forces on Higher Education

Angel J Calderon
Durban, South Africa
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This keynote is divided in three inter-related sections

1.

DRIVERS OF CHANGE / MEGATRENDS

- Demographic
- Technology
- Globalisation
- Urbanism
- Geopolitical shifts
- Scarcity of resources



2.

CHALLENGES AND OPPORTUNITIES FOR SOUTH AFRICA HE

- Student access and participation
- Equity and diversity
- Funding and diversification
- Competition galore
- Relevance in knowledge production



3.

WILL IR&P* CONTINUE TO EXIST?

- Crucial but largely taken for granted
- Automating insights and intelligence
- Worthiness of insights and accuracy of foresights
- Reinvent, reinvigorate and rejuvenate practice



* IR&P refers to Institutional Research and Planning

The world's population is shifting Africa's way

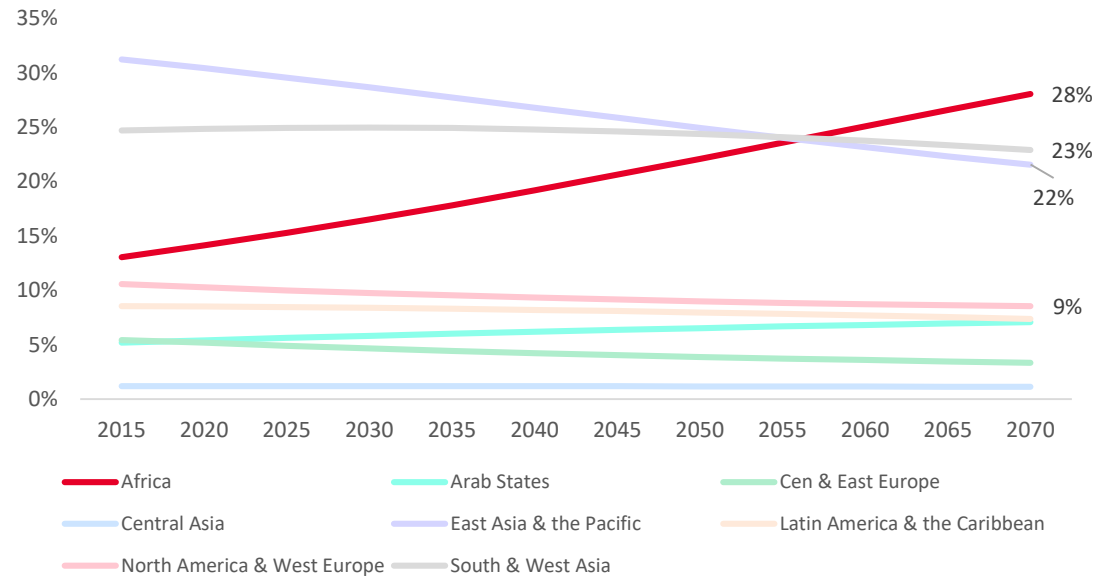


In **2015**,
7.4 billion persons and is
expected to increase to
9.2 billion by **2035**.

Annual growth in the world's
population is *slowing down* due
to **lower fertility rates** leading
to an **older population overall**.



Share of the world population's estimates by region, 2015-2070



Large movement of
migrants continue to occur
– these movements go
from **low- and middle-
income countries** to **high-
income countries**.

	SOUTH AFRICA	AFRICA
2015	55.3	1,194.4
2035	66.9	1,896.7
2060	75.4	2,964.4

By **2060**,
Sub-Saharan Africa will have
the *greatest share* of the
world's population followed
by South & West Asia and
then East Asia & the Pacific.

Gap in life expectancy at birth between the least developed countries and
other developing countries are *progressively diminishing*.



South Africa has been the exception and a model in development and transformation

In part explained by the...



**POLITICAL
TRANSITION**



**ECONOMIC
REFORMS**



SOCIAL MOBILITY



**INTEGRATION TO
GLOBE NODES OF
PRODUCTION AND
KNOWLEDGE**

However South Africa has a challenge that is common among developed countries...

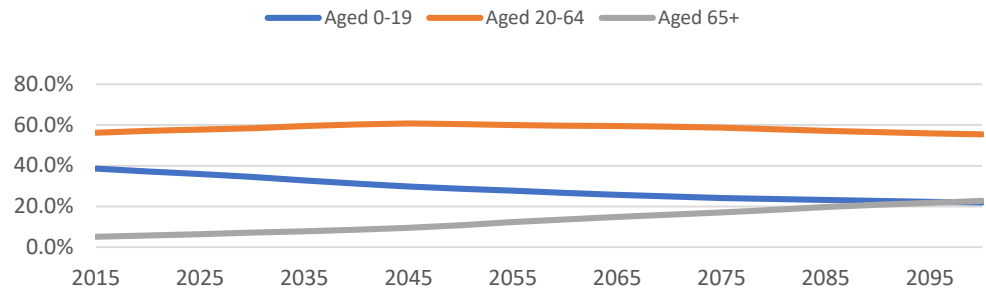
South Africa has:

- ❖ A population that is ageing
- ❖ Economically active population that is declining
- ❖ Youth population that is progressively slowing down
- ❖ Integrated to globe nodes of production and knowledge.

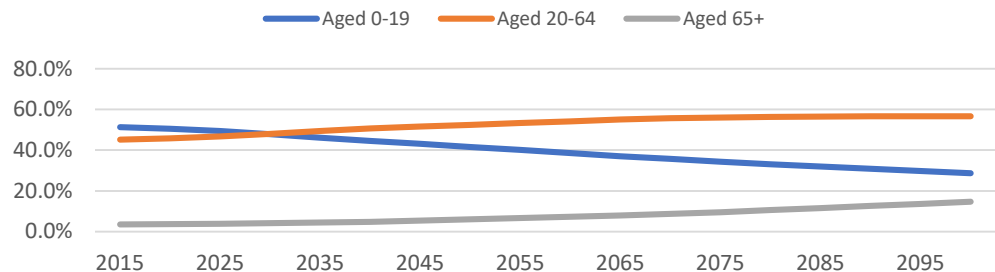
By 2040...

The world's landscape is likely to feel vastly differently, particularly as a result of the *geopolitical shifts* that have occurred as a consequence of **demographic changes** but also due to **technological transformation**.

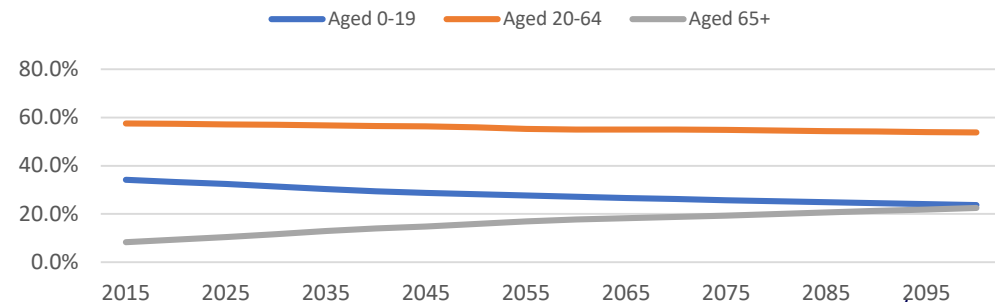
Distribution of population in **South Africa**, estimates 2015-2100



Distribution of population in **Africa**, estimates 2015-2100



Distribution of population in **world**, estimates 2015-2100



Technology has had a profound impact at nearly every turn in our lives

Since the 1990s, the Internet has changed the world more than any other factor

TECHNOLOGICAL CHANGES



Have contributed to making education *more accessible* and *affordable* for those who seek it, and **less costly** for providers.



Enable the proliferation of new *modes* and *types* of **educational delivery**, such as MOOCs.



Helping to improve the *quality of life* for millions of people and it is also changing **long-held social norms** and **conventions**.

PERVASIVE EFFECTS OF TECHNOLOGY



Automation is depriving many people (particularly the young and those with a low skill base) of **employment**, and therefore of an ability to feel integrated in the global economy.



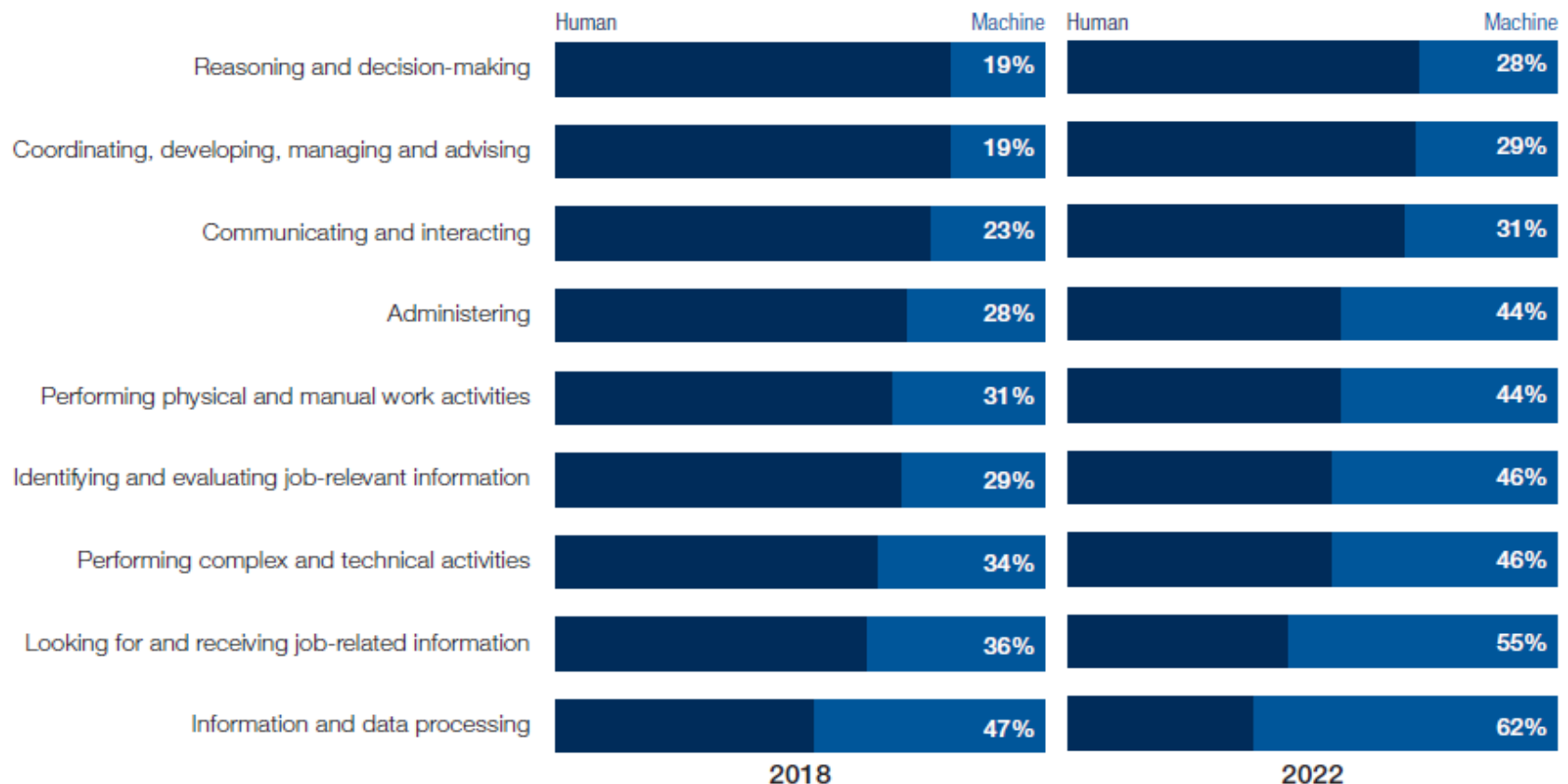
An *increased pace* of automation in the labour market means that governments must develop **new policies** to **protect the vulnerable** while reaping the gains of new technologies.

Revolution in biotech and infotech will enable us to engineer and manufacture life and consequences of such are unknown - Harari

Technological breakthroughs are shifting the balance between humans and machines

Therefore, global labour markets are likely to undergo significant transformations:

- If addressed correctly, improved quality of life
- If not addressed correctly, risks of widening skills, greater inequality and social disruption



Source: Future of Jobs Survey 2018, World Economic Forum.

Technology has had a profound impact at nearly every turn in our lives



Revolution in biotech and infotech will enable us to engineer and manufacture life and consequences of such are unknown - Harari

The sprawl of urbanization has primarily taken effect through the *significant expansion* of the large and metropolitan cities

Increasingly, there will be a greater divide between cities in terms of *development*, and a divide between cities that derive greater benefits from seizing opportunities from **high-value-added industries** compared to less affluent urban conglomerates in zones somewhat distant from major economic hubs.



In 1950,
29.6% of the world's population lived in urban centres.



By 2000, **46.6%** of the world's population lived in urban centres. Most urbanized world regions had > 70% of their population living in urban centres. Urban population of *Africa* and *Asia* was 34.5% and 37.5%, respectively (United Nations, 15).



In 2018, there were more than **560** urban conglomerates with more than 1 million inhabitants.

Of which 35 had > *10 million* inhabitants, and another 54 had a population that ranged between 5 million and 10 million inhabitants.

By 2050,
66.4% of the world's population will live in urban centres, with the most urbanized world regions having > 80% of their population in urban centres.

By 2050, Asia will reach **64.5%** of urbanization – approximately the level observed in Northern America in the *early 1970s*.

Geopolitical shifts are altering the balance of power, the dynamics of trade (incl. educ. services and social norms)

USA

Since the end of WWII, USA has been the *largest economic superpower*, while many Western countries have been stagnant and mature economies are **becoming weaker** on the global stage.

Asia

Has been *rapidly growing* in economic importance, and is being manifested on a **greater political and military assertiveness**.



China is becoming the *world's leading economy* and is investing heavily across industry sectors and countries in the West, but is also seeking to integrate and consolidate its maritime trade routes.

Geopolitical shifts are altering the balance of power, the dynamics of trade (incl. educ. services and social norms)

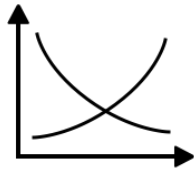


- Liberalism has prevailed in recent decades but is **hugely discredited**.
- Ideas of open markets, freedom and liberty **have weakened**, therefore the end of history has been deferred.
- Liberalism reconciled competing tensions (e.g. rich vs poor, nation to nation division) and provided a glance of optimism (e.g. affirmative action).
- Liberalism is **yet to provide an answer** to two critical challenges: Climate change and technological transformation.
- Rise of nationalism and populism in many countries reflect **disillusionment** with liberalism.

Natural resources are not infinite



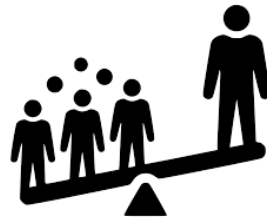
Global demand for **food, water and energy** has skyrocketed by a growing population.



Addressing problems for one commodity is linked to **supply and demand** for the others.



Climate change is altering food production and is even squeezing out some fertile and arable land out of use.



Growing **resource constraints** could limit further development exacerbates inequality, social disfunction and displacement.

The many intersections



Challenges and opportunities for higher education in South Africa

Mediating tensions in the state, society and market forces are altering the education algorithm

THE WAY THESE FORCES ENGAGE WITH HE AND STAKEHOLDERS WILL DETERMINE THE PATH OVER THE NEXT 15-20 YEARS

Policy responses need to consider the spectrum of possibilities arising from the driving forces and megatrends.

Timeliness and moderation is pivotal.

Even more importantly for South Africa and the continent as a whole is that, by 2055 the region will have the **greatest share of the world's population**.

What kind of **institutional research and planning** we see evolving from now on?

1. While South Africa has a high GER Secondary, it lags behind in Tertiary Education

Improve opportunities for access and retention as well as financial support for students

South Africa's GER at *Secondary level* **exceeds** 100, and is comparable to Japan, Switzerland, Turkey and Italy.



However, South Africa's GER at Tertiary level stands at 19.8, **below** the **world's average** (36.6), and stands where the *world average* was in 1999 or where *East Asia and the Pacific* stood in 2001.



What does it mean for HE?

- A national system at the *lower spectrum of massification*.
- Inadequate and inefficient *access and participation policy*.
- Insufficient investment to *support disadvantaged students* throughout the education journey.

2. An increased fragmentation in society and a weakened position of the state gives rise to inequality

Education is a policy lever to encourage mobility

Inequalities tend to accumulate throughout an individual's education path.



Opportunities for whole population to benefit from social, economical and technological change.



Inequality (in income, wealth, participation in society and economy) reduce life expectancy.



Lack of interaction between elite and disadvantaged groups is a worrying trend – culturally and socially cocooned groups are detrimental to the make up of society.



What does it mean for HE?

- Reduced opportunities for upward social mobility.
- Under-representation of disadvantaged students is an obstacle for diversity, inclusion and social cohesion.
- [Propensity to a] homogenised student population.
- Restricted human knowledge capital and ability to innovate.

3. Institutional fragmentation results in a two-speed system and lack of differentiation

*Homogenisation of policy and education system is not a panacea
Strengthen institutional governance, quality and viability*

- Public policy has encouraged diversification in provision, funding and discipline offerings.
- Tendency to substitute 'social' value / 'public benefit' for private gain / benefit.
- Institutional differentiation is diminishing (and sectoral weakening).
- The well endowed, elite and research intensive university flourish.



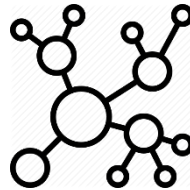
What does it mean for HE?

- Patchy educational quality (from inputs, through outputs to outcomes).
- Government policy failure a damning event (market failure).
- Weakened standing of national system
- Impoverished institutions – public system at peril of financial crisis.
- Reduced opportunity for institutional diversification, differentiation and specialisation.
- Incompressible institutional missions
- A private system focused on a few 'winning' deliverables.

4 . Waves of quality systems and mechanisms assure us there is not a one-fit all approach

Respond accordingly to student and graduate feedback
Positive signalling – students are not customers

- Building a network of quality recognition across disciplines / functional areas.
- Quality assurance and quality improvements should be embedded in every aspect of university activity.
- Metrics (e.g. KPIs and rankings) has become the tool of institutional judgement.
- Listening to the student voice and responding to it remain most effective way for improvement and effectiveness.



What does it mean for HE?

- Nurture a culture of excellent to ensure quality standards remain high.
- Ratings and rankings do not replace quality.
- Critical for institutional viability is responding to student and graduate feedback.
- Success in one discipline depends on / transcends to others.

5. In liberalised markets, governments are less able to adequately fund HE and the R&I enterprise

Institutions are competing for students resources

- Shifts from public to private funding (students and industry contribute).
- Shifts from public to private, private and for-profit provision.



What does it mean for HE?

- Tense competition for resources, increased reliance on institutional reputation.
- Erosion of quality standards across sectors, institutional types and delivery.
- Loss of trust and confidence in public institutions and offerings.

6. Institutions are being corporatized and driven by market approaches

Aim for striking a balance between the inner and the outer institutional core. These ought to be synchronised

- Keep in mind student cohorts and communities we serve
- Marketisation and commodification of education have become the norm and we live by it now.
- Accountability is an obligation to report to others how resources have been used.



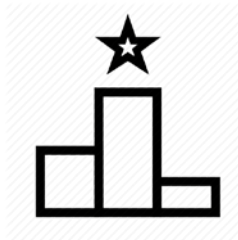
What does it mean for HE?

- Increased homogenisation of institutions and programme offerings across borders.
- Reduced differentiation of institutions.
- Exposure to market failure.

7. Research endeavours are central to the mission of universities and for being relevant locally and globally

Global rankings has intensified focus on prestige derived from research

- An essential ingredient for improving productivity and quality of life.
- More institutions are seeking to reach the top (via research intensification).
- Publish or perish to demonstrate talent.
- Shift from research outcomes (improve / impact people or products) to productivity (incl citations).



What does it mean for HE?

- Issues with managing workload / academic expectations.
- Rule of metrics and measurement fatigue.
- KPIs / target that drive behaviours.
- Rise of popular science to rank higher in university rankings.

8. Learning and outcomes is what appeals to student in the first instance.

Mission creep – expanding realm of the university mission

- While rankings are driven research metrics, not every institution should aim to be research driven.
- Equipping students with the education, skills and abilities to contribute to society is central.



What does it mean for HE?

- Changing algorithm of the idea of a university.
- Increased focus on labour market outcomes and competences that are 'needed'.
- Reduction in suite of programme / subject offerings.

Implications and lessons for higher education

1

Weakening of **quality public services** safeguards, including weakening regulatory frameworks in education.

2

Increased **commercialization** and **privatization** in educational services provision, accompanied by business-oriented language.

3

Increase in the provision of educational services by **private providers**.

4

Public subsidies extended to private providers.

5

Legislative reforms are not being enacted to limit access to public subsidies by foreign providers.

Do you recognise these features?

- Emphasis on **private sector styles** of management practice.
- **Hands-on professional management** in the public sector
- Explicit **standards** and **measures** of performance.
- Greater emphasis on **output controls**.
- **Shift to disaggregation of units** in the public sector.
- **Shift to greater competition** in public sector.
- Stress on greater discipline and parsimony in **resource use**.

**What kind of institutional research
and planning we see evolving from
now on?**

Let's highlight the good news...



The Jobs Landscape in 2022



Source: Future of Jobs Report 2018, World Economic Forum

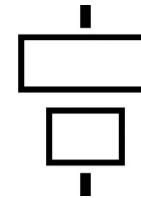
Looking ahead...

The idea of institutional research and planning should remain in force



but in practice...

We are at the mercy of restructuring, resourcing, realignment and outsourcing of decision-support services.



And even at the mercy of competition from within.



However, we foreshadow exponential change in years to come in the education workforce

TALENT ALIGNED TO VALUES / CULTURE

- Skill drain / spoil over
- Creatively bound

OUTSOURCING

- Roles redundant
- Fly in / fly out
- Foreign / outside expertise

RECRUITING FROM OTHER INDUSTRIES

- Demoralizing internal talent
- Mediocrity creep

TECHNOLOGY / AUTOMATION

WORKFORCE PLANNING

- Casualization
- Buy in talent ready
- Shared services

LEADERSHIP CONSTRUCT

- Complaint
- Vision vacuum
- Void DM

Embrace and harness technology to remain viable, relevant and [professionally] competitive

THEN...

Institutional research as a professional practice emerged as governments sought to ensure resources were **managed** and **distributed efficiently**.



NOW...

There are many **conflictive and mediating tensions** and stakeholders shaping HE.

GOING FORWARD...

From slow and business as usual to operational transformed practice

Promote, nurture and cross-pollinate professional practice.

Pivotal: Collaboration, versatility and highly functional mobile across functions, roles and services.

Professional hats that institutional researchers must wear



ANALYST



DATA SCIENTIST



PROBLEM SOLVER



AUDITOR



BROKER B/W P-P-S



STORYTELLER



POLITICAL &
ECONOMIC
SCIENTIST



GEOGRAPHER
& SOCIAL
SCIENTIST



STRATEGIST



PEDANTICALLY
KNOW ALL

Agent of change

The changing nature of skill sets

In many respects, it is much ado about nothing

The Future of Jobs Report 2018

Table 4: Comparing skills demand, 2018 vs. 2022, top ten

Today, 2018	Trending, 2022	Declining, 2022
Analytical thinking and innovation	Analytical thinking and innovation	Manual dexterity, endurance and precision
Complex problem-solving	Active learning and learning strategies	Memory, verbal, auditory and spatial abilities
Critical thinking and analysis	Creativity, originality and initiative	Management of financial, material resources
Active learning and learning strategies	Technology design and programming	Technology installation and maintenance
Creativity, originality and initiative	Critical thinking and analysis	Reading, writing, math and active listening
Attention to detail, trustworthiness	Complex problem-solving	Management of personnel
Emotional intelligence	Leadership and social influence	Quality control and safety awareness
Reasoning, problem-solving and ideation	Emotional intelligence	Coordination and time management
Leadership and social influence	Reasoning, problem-solving and ideation	Visual, auditory and speech abilities
Coordination and time management	Systems analysis and evaluation	Technology use, monitoring and control

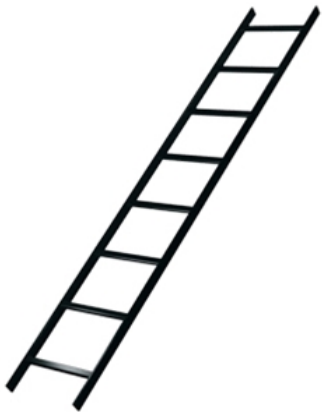
Source: Future of Jobs Survey 2018, World Economic Forum.

Key to supporting decision making and ensuring long term sustainability

**ABILITY TO ADAPT
TO CHANGE**

**ABILITY TO INFER
ABOUT THE
POSSIBILITIES
ABOUT THE
FUTURE**

**BOLSTERING
JUDGEMENT
RELATED SKILLS**



**CAPACITY TO
CONSIDER
IMPLICATIONS
FOR INSTITUTIONS
AND WIDER
SOCIETY**

**HIGH LEVEL
COMMUNICATION
SKILLS**

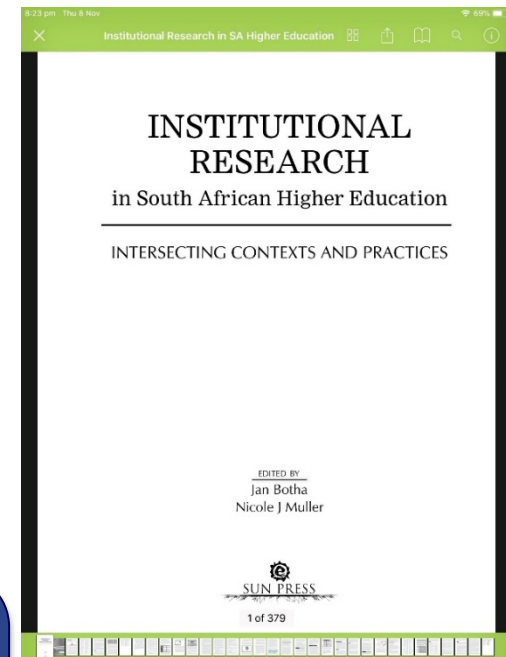
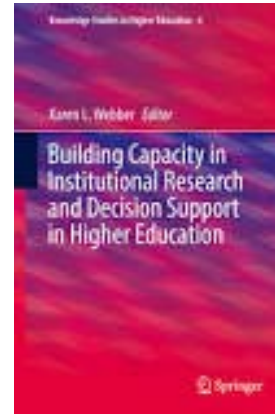
Strategies for capacity building

Human resource
development

Organizational
development

Leadership

Partnerships



Wicked challenges for institutional research?

1

WHICH AND WHOSE
HATS SHOULD WE WEAR
/ STOP WEARING?

2

WHERE SHOULD WE SIT?

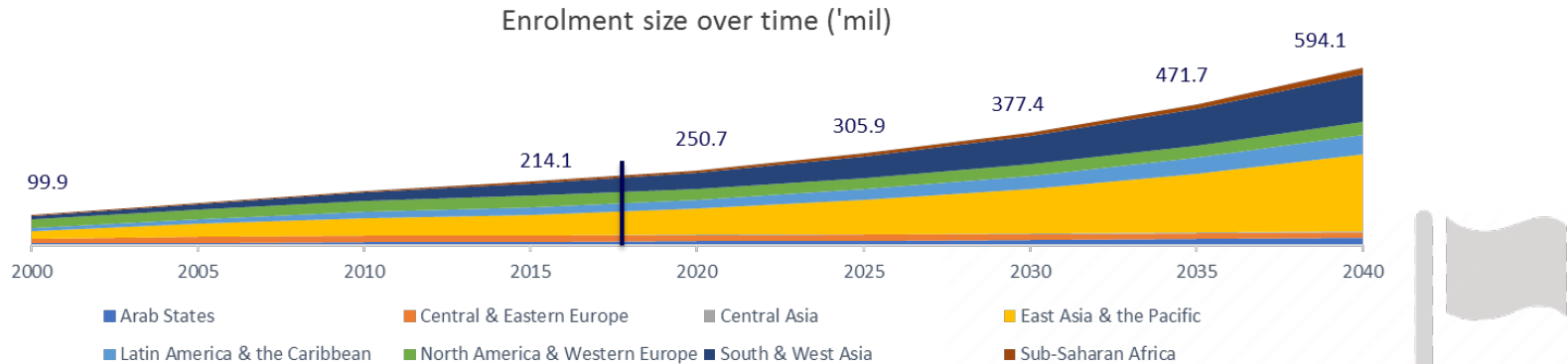
3

HOW DO WE REMAIN
RELEVANT IN THE
MYRIAD OF
INSTITUTIONAL AND
SOCIETAL CHANGE?

4

ARE WE A DEFINED
PROFESSION OR SIMPLY
A COLLECTION OF
HIGHLY SKILLED
INDIVIDUALS?

Despite the many challenges, we shall remain optimist about the road that lies ahead



Contrary to what many say,
the university (and even its idea)
is not at peril of disappearing.





Many thanks!

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