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

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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.

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

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

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.
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.
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

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.

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).

By 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.

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

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.

*GER = Gross Enrolment Ratio*
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 damming 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

- Shifts from public to private funding (students and industry contribute).

- Shifts from public to private, private and for-profit provision.

**Institutions are competing for students resources**

**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 students 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

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<td>1</td>
<td>Weakening of <strong>quality public services</strong> safeguards, including weakening regulatory frameworks in education.</td>
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<td>2</td>
<td>Increased <strong>commercialization</strong> and <strong>privatization</strong> in educational services provision, accompanied by business-oriented language.</td>
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<tr>
<td>3</td>
<td>Increase in the provision of educational services by <strong>private providers</strong>.</td>
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<td>4</td>
<td><strong>Public subsidies</strong> extended to private providers.</td>
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<td>5</td>
<td><strong>Legislative reforms</strong> are not being enacted to limit access to public subsidies by foreign providers.</td>
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### 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

Top 10 Emerging
1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals
6. Big Data Specialists
7. Digital Transformation Specialists
8. New Technology Specialists
9. Organisational Development Specialists
10. Information Technology Services

Top 10 Declining
1. Data Entry Clerks
2. Accounting, Bookkeeping and Payroll Clerks
3. Administrative and Executive Secretaries
4. Assembly and Factory Workers
5. Client Information and Customer Service Workers
6. Business Services and Administration Managers
7. Accountants and Auditors
8. Material-Recording and Stock-Keeping Clerks
9. General and Operations Managers
10. Postal Service Clerks

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

- **TECHNOLOGY / AUTOMATION**
  - Roles redundant
  - Fly in / fly out
  - Foreign / outside expertise

- **RECRUITING FROM OTHER INDUSTRIES**
  - Demoralizing internal talent
  - Mediocrity creep

- **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
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

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