How Technology will reshape jobs: Challenges and Opportunities

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Overview

- Job transition is not new in the industry sector, in the pursuit of higher productivity at lower cost options, jobs have for many years been shed.

- Automation, digital platforms, and other innovations are changing the fundamental nature of work.

- Disruptive technology, rapid penetration of the 4th industrial revolution, Automation, digital platforms, and other innovations are changing the fundamental nature of work.

- Understanding these shifts can help policy makers, business leaders, and workers move forward.

- It is important to note machines do not consume things and whilst they can replace human work, they do not drive purchasing behaviour or contribute to GDP.
Goals

• Showcase the challenges and opportunities on how technology will reshape the job sector in the Southern Africa

• Highlight possible solutions on how to create more jobs through technology
The Industrial Revolutions

1.0 Based on mechanical production driven by water & steam power.

2.0 Based on mass production enabled by electrical energy.

3.0 Based on the use of computer & electronics to further enhance automation.

4.0 Based on the use of cyber physical systems.
The 4th Industrial Revolution Affects every facet of business
SADC Microscopic overview

SADC Population: 342.1 M,
Median age: 19.9 years, 76% is youth, >= 52% is female
Mode: Mobile 5% fixed lines
ICT contribution to GDP: avg 3.2% (SA ICT GDP contribution R105.7B, 2016/17 fiscal yr)
Internet penetration: 35.2% in Africa, 14% are active internet users, Facebook has most users globally (1.87B users everyday!), 170M in Africa, 14M in South Africa
Technologies to be used by Gov
There’s no Digital Transformation without Connectivity

- By 2025 >50 billion devices will be connected (IOT, AI, Machine to machine) – High energy consumption, high data, high bandwidth
- Pervasive high-speed connectivity is the catalyst of and foundation for the development of the 4IR
- It is this connectivity that will enable effective data collection and analytics to ensure continuous improvement along with the use of mobile technologies to reach every citizen in the Southern Africa
- Internet access enables innovation and creativity
Challenges: Technology for Jobs

*Disruption technology is an opportunity as well as a challenge*

✓ Increment of technology innovation in the jobs sectors transversely disrupts all industries

✓ Rapid Automation in manufacturing, agro-processing, retail and mining

✓ Digital illiteracy

✓ Education and inequality
  - Mismatched skills of graduates (IT students who can’t build a website from scratch)

✓ New business models causing less human engagement but designed for humans
Roles / jobs that are likely to be obsolete as technology affects more businesses
Opportunities: Jobs for Technology

- Machines do not consume things and whilst they can replace human work,
- They do not drive purchasing behaviour or contribute to GDP. Society will regress if humans can’t work, earn and spend.
- Digital technology also can enable new forms of entrepreneurial activity i.e. Youtube content providers “vlogger”, >100k you tubers in Africa; with more than 100 000 viewers per video they can earn between $500 - $10k depending on the advertisers in the video.
- Digital technology emerging businesses through knowledge based economy embedded with indigenous knowledge
New roles / jobs are going to be in demand as technology and the 4th industrial revolution affects business
Recommendations to the SADC Secretariat

1. Evolve education systems and learning for a changed workplace: Improve basic STEAM skills 
   (Science, Technology, Engineering (Entrepreneurship), Arts, Mathematics)

2. Determine how the private sector can drive training: Companies face gaps in skills they need in a 
   more technology-enabled workplace.

3. Create incentives for private-sector investment to treat human capital like other capital: Through tax 
   benefits and other incentives, policy makers can encourage companies to invest in human capital, 
   including job creation, learning and capability building, and wage growth.
Recommendations to the SADC Secretariat

4. **Digital infrastructure**: Explore public-private partnerships to stimulate investment in enabling infrastructure, the lack of digital infrastructure is holding back digital benefits in many economies, both developing and developed; public-private partnerships could help address market failures.

5. **Embrace technology-enabled solutions**: Such solutions, including richer information signals, can be used in the labor market to improve matching and access and bridge skills gaps.

6. **Focus on job creation**: Accelerate the creation of jobs in general through stimulating investment in businesses, and accelerate the creation of digital jobs in particular and digitally enabled opportunities to earn income including through new forms of entrepreneurship.
7. Innovate how humans work alongside machine: Greater interaction will raise productivity but require different and often higher skills, new technology interfaces, different wage models in some cases, and different types of investments by businesses and workers to acquire skills.

8. Capture the productivity benefits of technology: These can be harnessed to create the economic growth, surpluses, and demand for work that create room for creative solutions and ultimately benefit all.
Skills needed for the “now” Future

• Critical Thinking and Problem Solving
• Collaboration Across Networks and Leading by Influence
• Agility and Adaptability
• Initiative and Entrepreneurship
• Effective Oral and Written Communication
• Assessing and Analyzing Information
• Curiosity and Imagination
Thank You

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Sun n Shield 84 Technologies
- Broadband infrastructure solutions company
- Erupting a passive fibre optic products plant, Q4 2019 to produce 2,3 M fibre km for lastmile, spur build and metro transport networks
- A broadband infrastructure partner in most SADC countries for broadband rollout