Digital Skills Enabling Digital Transformation

GovTech 2023

Human Capital Challenges in South Africa

- Of South Africa's 20.5 million young people aged between 15 and 34, more than 8 million are not unemployed in education or training (Stats SA, 2022). There Slow economic growth, a skills mismatch, and inequalities stemming from gender, disability, and the country's history of racial discrimination are key contributors to skills challenges in South Africa .
- Genesis Analytics (2020) confirms that there is dire shortage of digital and ICT skills and the lack of readily available digital talent pipelines in South Africa
- Traditional pathways are not addressing the market demand, and there is rampant outsourcing and offshoring of digital jobs (Genesis Analytics, 2020)

Southern Africa context

55% of the population **live in areas covered by 4G technology**, but only 36% have access to it

55%

36%

Only 23% of the population **can afford 1GB per month of data**

97% Namibia

36% South Africa

23% Southern Africa

18% Botswana

4% Angola

2% Malawi
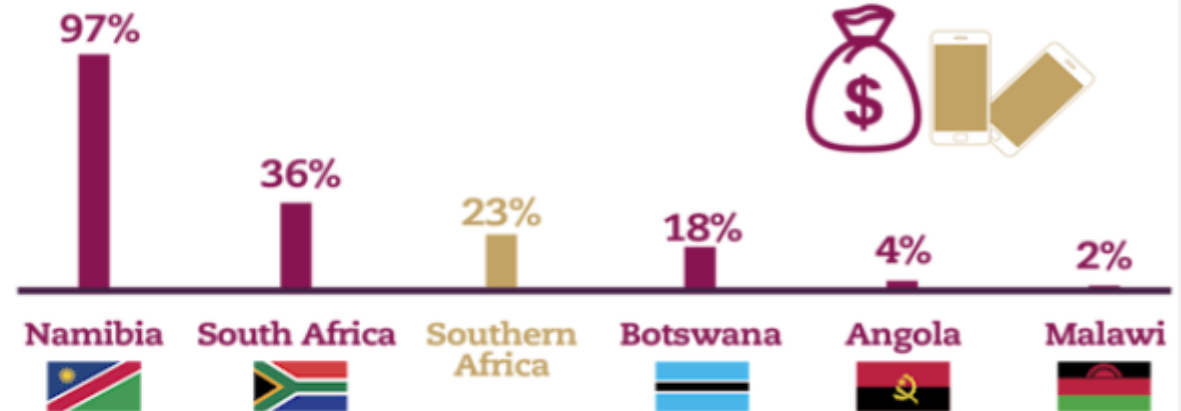
Source: OECD, 2021
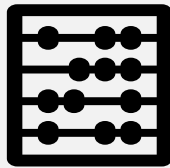
Four Domains of Digital Transformation

PEOPLE
Employee competencies;
Customer behaviours;
Culture; Innovation and Ethics

DATA
Turning data into assets;
Create additional value
Use data to grow the business model
Adapt to customer needs

ECOSYSTEMS
Build platforms not just products
Partnerships
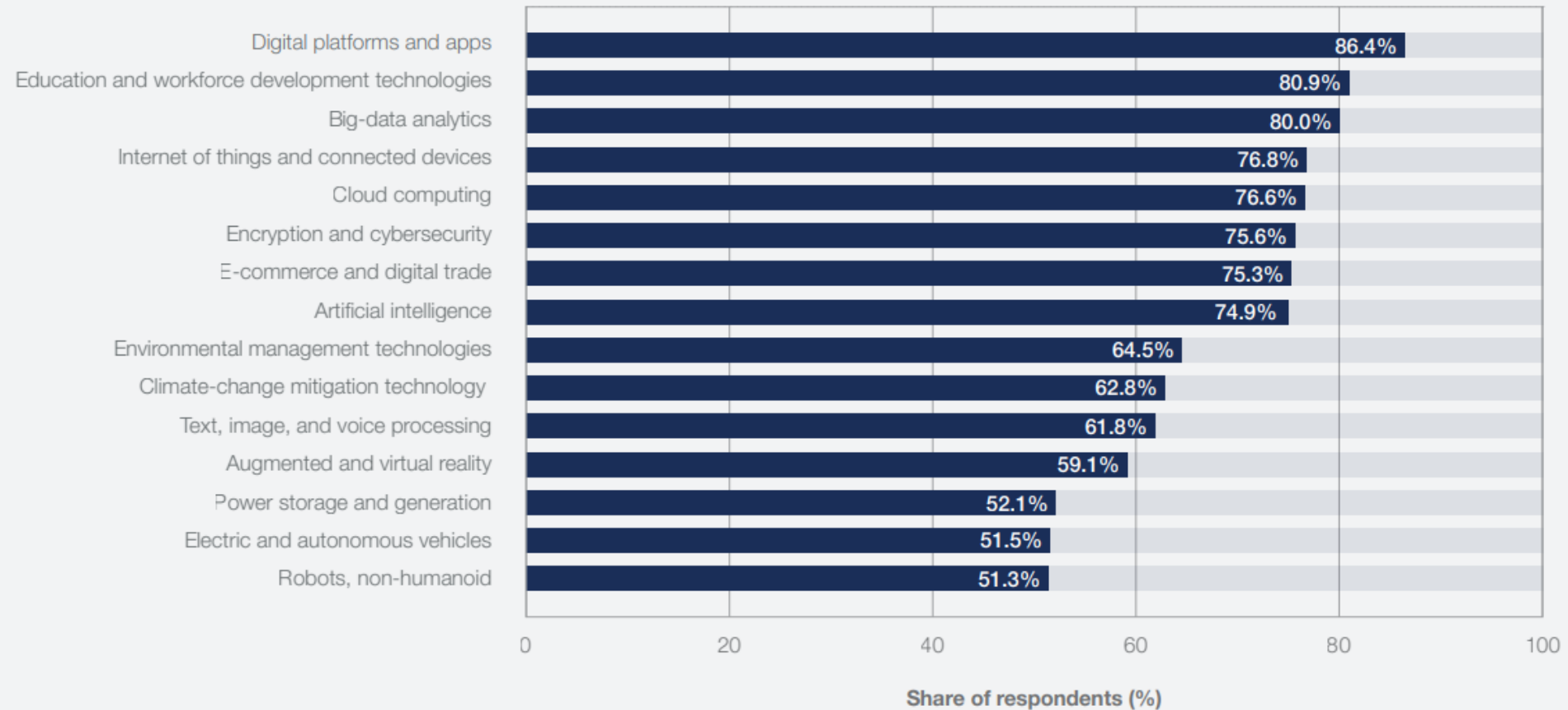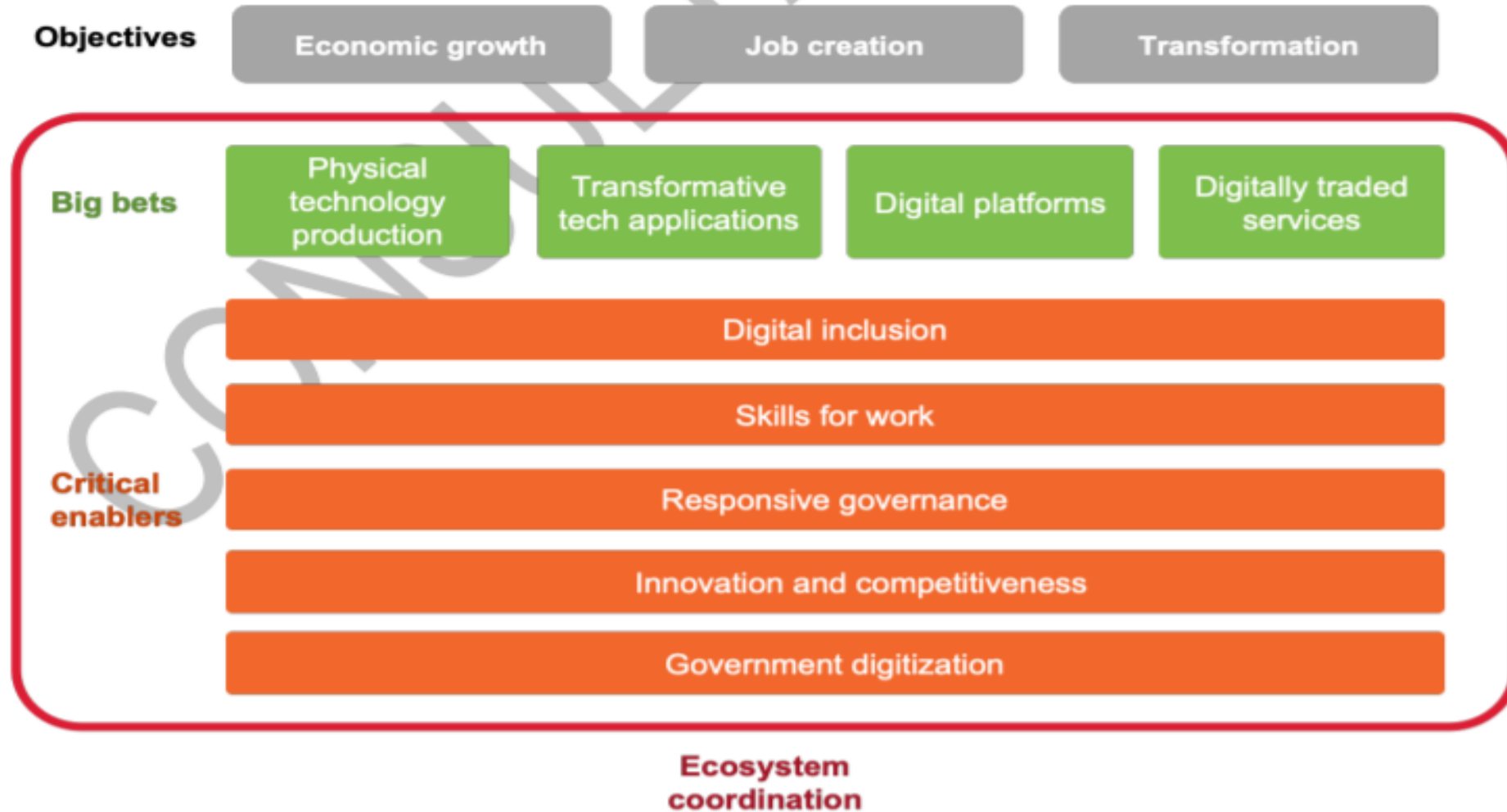Interconnected elements of the business environment

VALUE
Value proposition
Value measurement
Iterate improvements and additional value

Source: Gibs, 2021

Typologies of Technology adoptions

The WEF (2023) report lists the following key technology adoptions for the period 2023 -2027:

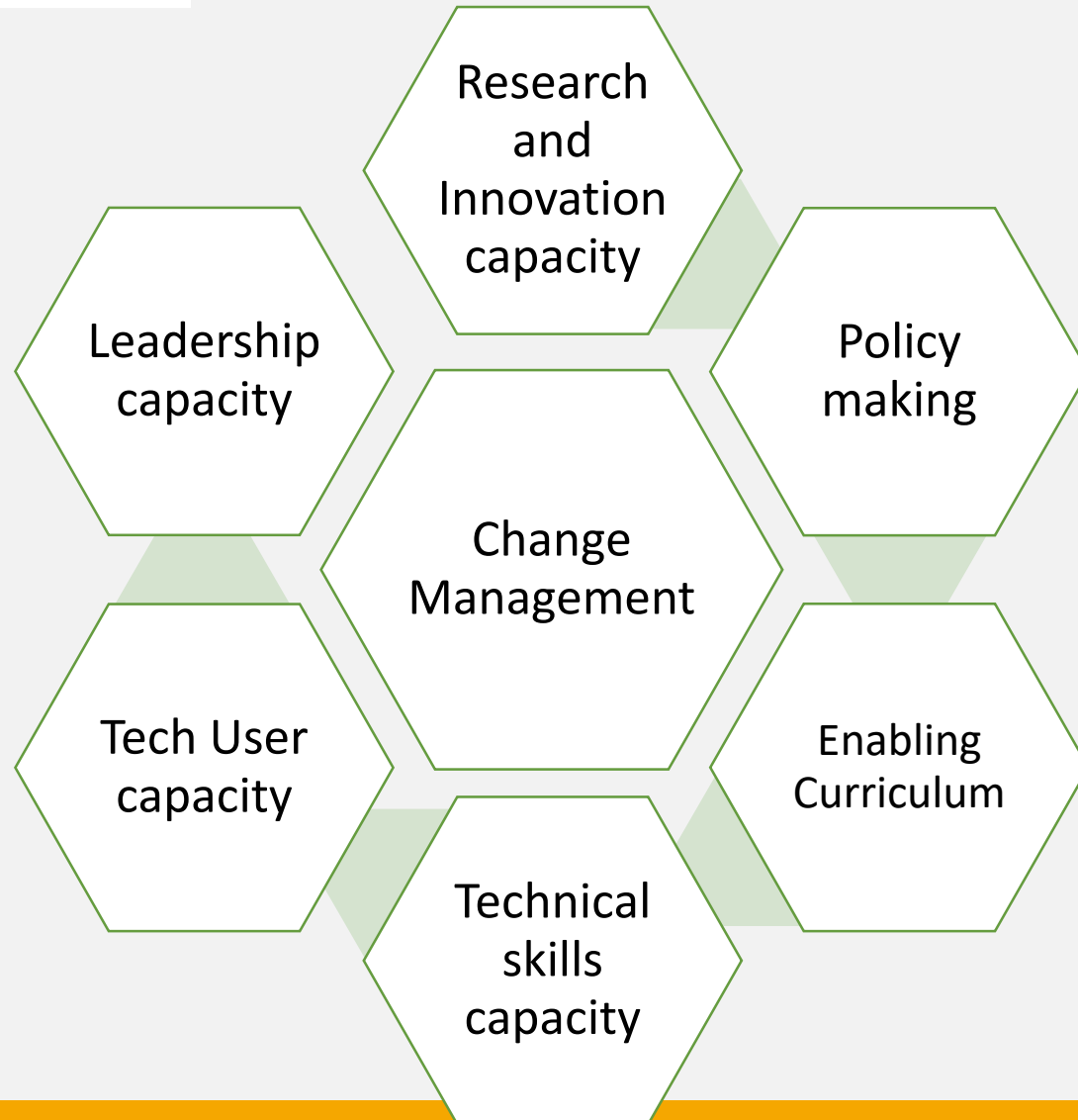| Technology	Share of respondents (%)
Digital platforms and apps	86.4%
Education and workforce development technologies	80.9%
Big-data analytics	80.0%
Internet of things and connected devices	76.8%
Cloud computing	76.6%
Encryption and cybersecurity	75.6%
E-commerce and digital trade	75.3%
Artificial intelligence	74.9%
Environmental management technologies	64.5%
Climate-change mitigation technology	62.8%
Text, image, and voice processing	61.8%
Augmented and virtual reality	59.1%
Power storage and generation	52.1%
Electric and autonomous vehicles	51.5%
Robots, non-humanoid	51.3%

Share of respondents (%)

The Digital Economy Masterplan for South Africa

Objectives
- Economic growth
- Job creation
- Transformation

Big bets
- Physical technology production
- Transformative tech applications
- Digital platforms
- Digitally traded services

Critical enablers
- Digital inclusion
- Skills for work
- Responsive governance
- Innovation and competitiveness
- Government digitization

Ecosystem coordination

Key focus structural and resource areas for successful digital transformation

Focus area	Desired outcomes	Skills implications
Electricity availability capacity	Improved electrical infrastructure	With electricity availability learning outcomes improve
Availability of ICT infrastructure	Established high-capacity technical infrastructure to support training	Unavailability of devices, connectivity and other technical infrastructure negatively affects digital skills delivery Availability of technician and emerging technology skills to close the skills gaps and take advantage of opportunities offered by emerging technologies
Data and connectivity availability	High quality connectivity and low data costs	Enabling trainees to access learning from anywhere and anytime
Specific support for digital economy start-ups and SMEs	Increased percentage growth in start-up success in South Africa and increased innovation	Delivery of SMME skills programmes
Funding	A high-performance and attractive investment environment	Training will be exponentially expanded to meet the demand
Language	Availability of training in various languages	Elimination of language barriers in the acquisition of digital skills especially at foundational levels
Advocacy on the value of digital transformation	Increased awareness on the value digital transformation will add	Increased awareness on career opportunities and emerging occupations

Required skills capacity for Digital Transformation

Research and Innovation capacity

Leadership capacity

Policy making

Change Management

Tech User capacity

Enabling Curriculum

Technical skills capacity

Alignment with national strategic direction ;

- Presidential Commission on 4IR Recommendations

- National Digital and Future skills strategy

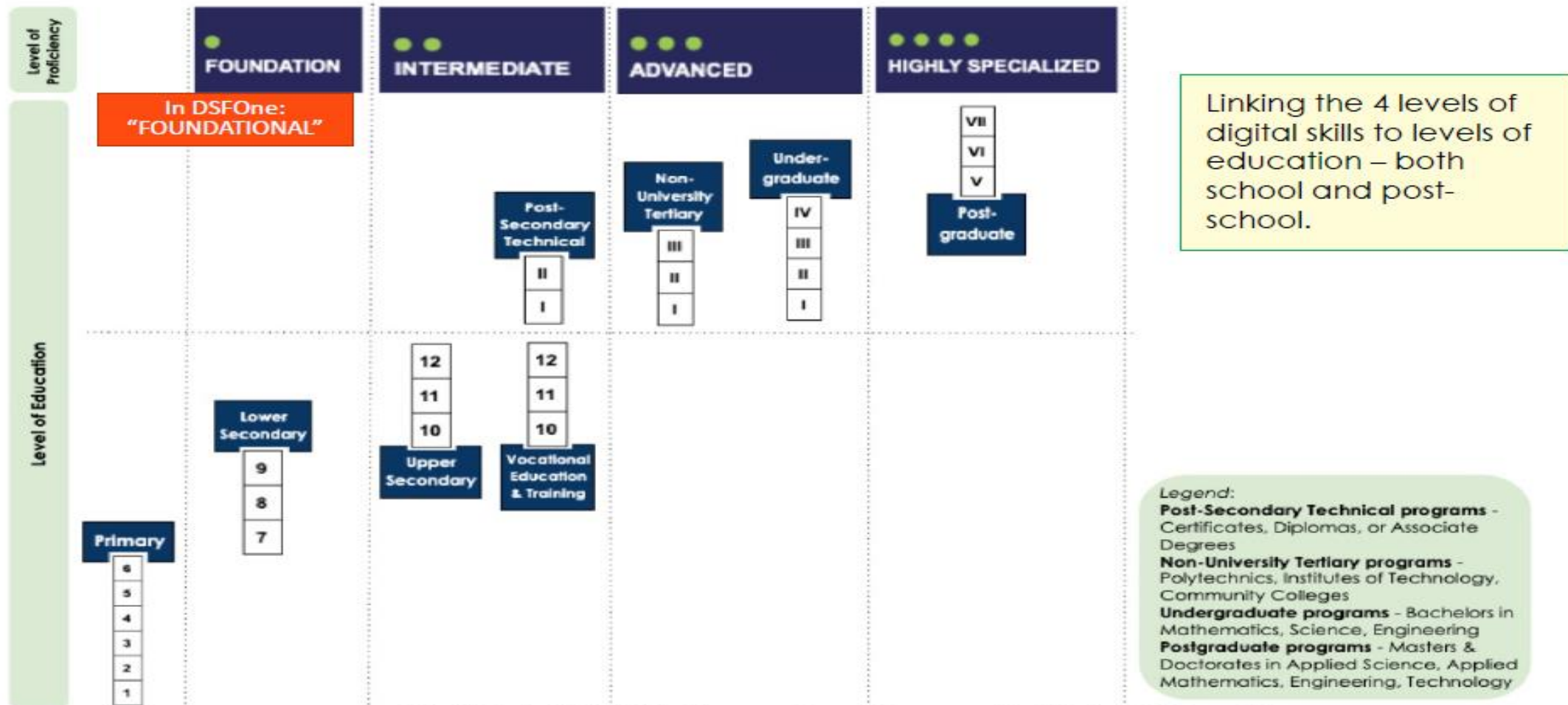- National Skills Development Plan

- Digital Economy Masterplan

The need for a digital skills framework for South Africa

Digital Skills and Levels of Education

[World Bank, *Digital Skills: Frameworks and Programs*. Washington 2020, p. 19]

SKILLS DEMANDED BY THE DIGITAL ECONOMY IN SOUTH AFRICA

The forecasted demand consisted of an estimated 44,200 entry-level jobs (67%), 12,471 intermediate jobs (19%) and 9,156 advanced jobs (14%)
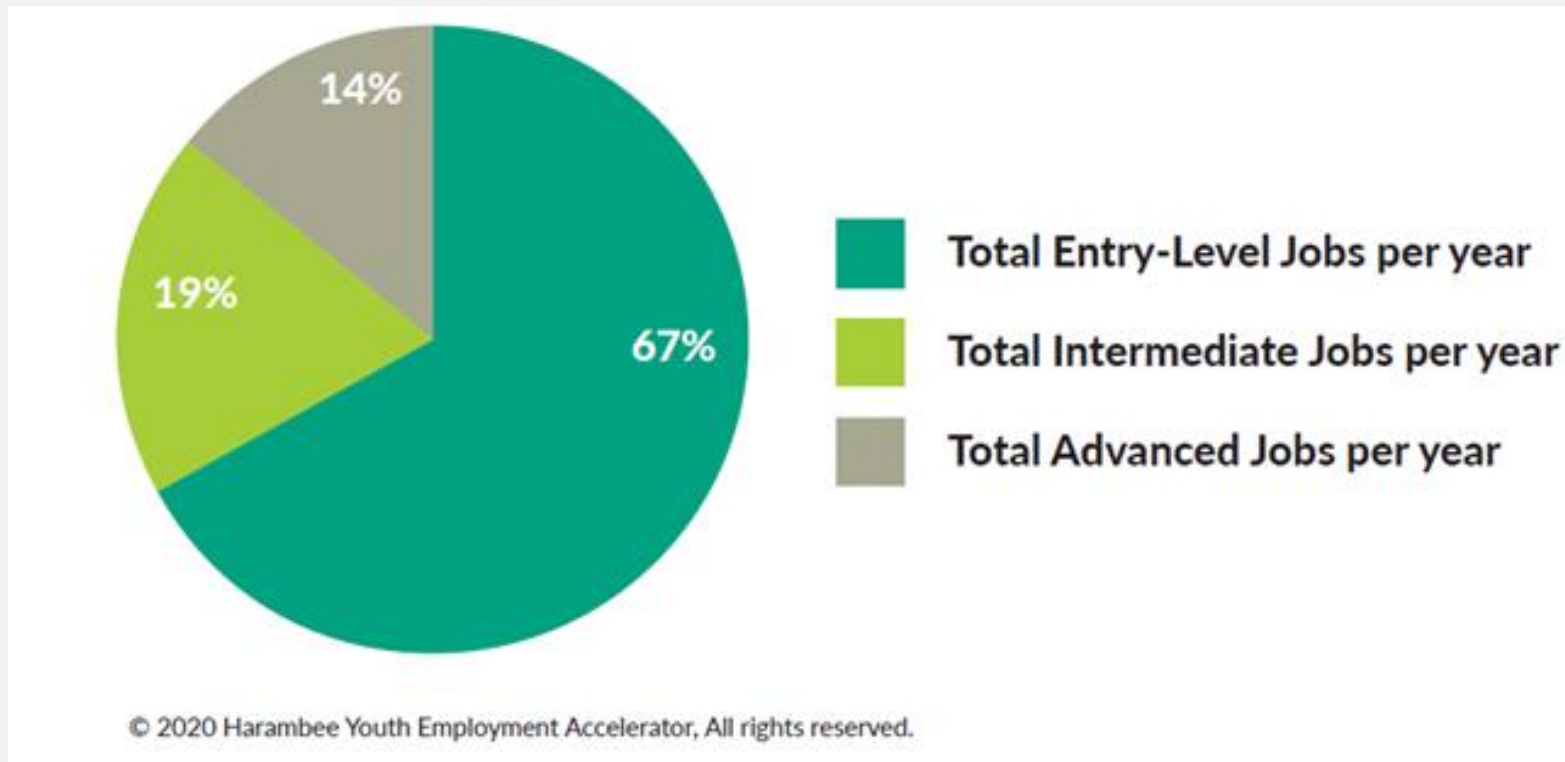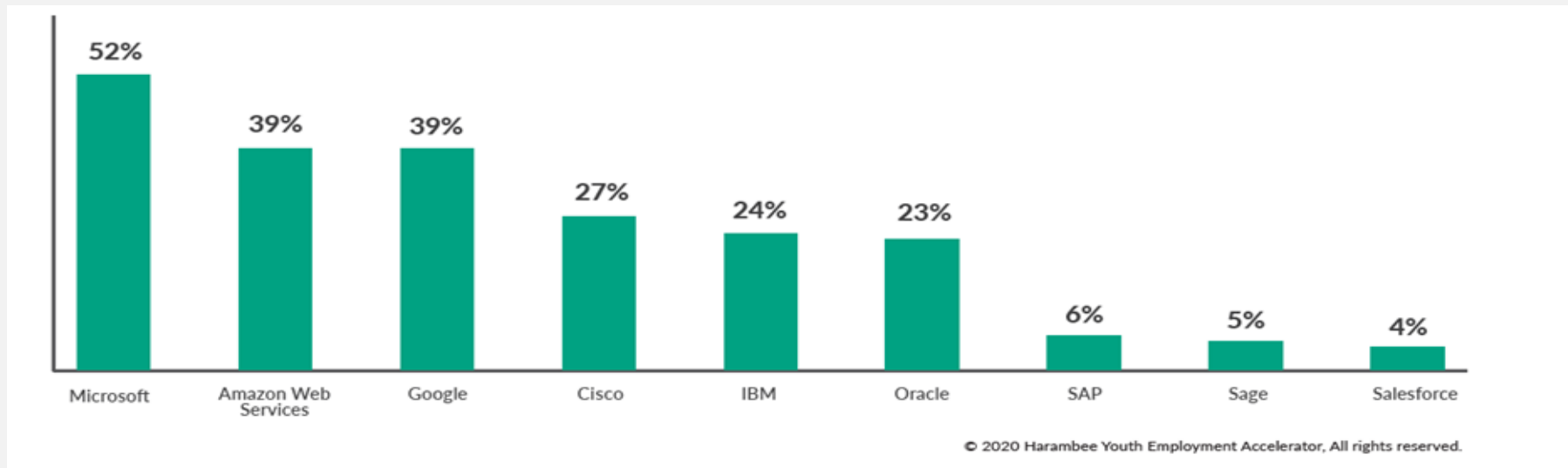
Source: (Genesis Analytics, 2020)

This thus points to the required strategic focus on developing skills mainly for entry-level jobs.

While the data shows that the majority of the skills development budget is deployed against accredited training, a significant percentage of the skills development budget is allocated to non-accredited business-specific training Microsoft dominates the technology landscape given its long-standing market share in South Africa, supported by the infrastructure it has developed in the country, including its Azure data centres in Cape Town and Johannesburg.

Source: (Genesis Analytics, 2020)

The graph below from Collective X's (2023) research shows the investment pattern between skills development for digital jobs, digitally enabled and non-digital jobs. The indication is that most of the investment goes to digitally enabled jobs followed by digital jobs.
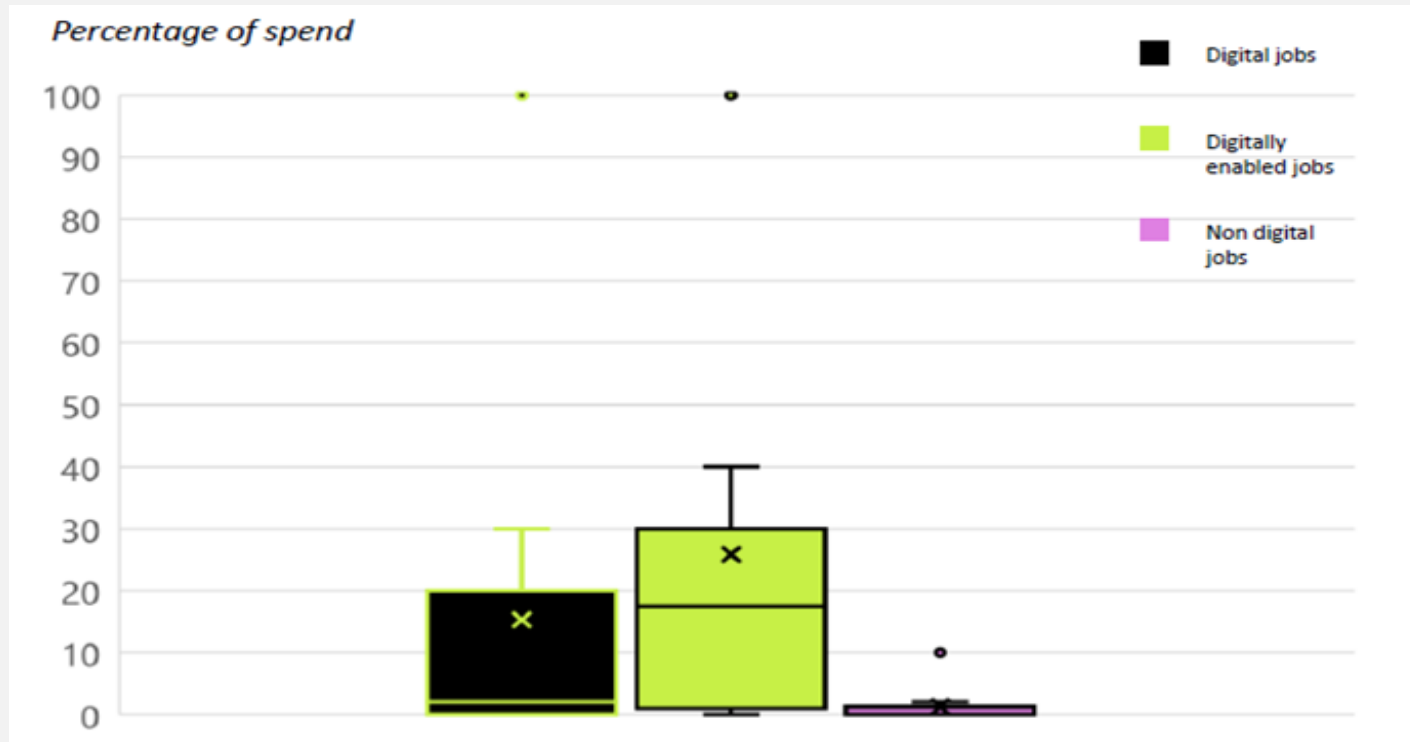
Source: (Collective X, 2023)

Targeted Skills programmes (2023/24)

Digital Literacy Skills Programme	Number of Beneficiaries
Digital Literacy	80000
Emerging Technology Skills Programme	**Number of Beneficiaries**
Software development (Entry and Intermediate levels(Coding and other languages)	13000
Cloud Specialist/Architect (Entry and Intermediate levels)	10000
Cyber Security Specialist (Entry and Intermediate levels)	10000
Integrated Systems Developer (Entry level)	1000
Data Science/Analysis (Entry and Intermediate levels)	4000
Machine Learning (Entry and Intermediate levels)	4000
Internet of Things (Entry and Intermediate levels)	4000
Blockchain (Entry level)	1000
Artificial Intelligence (Entry and Intermediate levels)	3000
Total	50 000

Targeted Skills Programmes (2023/24)

Technician skills Programme	Beneficiaries
Cell phone repairs (CPR) Virtual Expert Facilitators	30 000
Broadband Installations	5000
Wireless Internet Service Provision	5000
Digital Terrestrial Television Installations and aftercare	5000
Total	45000
Creative Media skills Programmes	Beneficiaries
Digital Production using Vlogging Kits	250
Digital Storytelling using a Mobile Device	250
Feature Making and Content Packaging for Radio Practitioners	250
Audio Podcasting	250
Total	1000

Thank you