Expert roundtable on skills for the digital economy

May 2019
Why are we here

**Strategy:** “A key element of the Foundation strategy is to accelerate the ability for youth to work in a digital world.”

**Hypothesis:** “Lack of meaningful progress towards digital skills leave millions of young Africans at risk of exclusion from opportunities in an increasingly digital world.”

**Objective:** Inform the development of an integrated, flexible framework and approach to enable African countries’ efforts to advance youth skills for work in a digital world.

1. Distil a framework of youth skills for a digital world.
2. Devise a typology of approaches to foster youth skills for a digital world.
3. Scope the landscape of global, regional and national actors.
4. Interpret what drives work opportunities for youth in a digital world.
How we think about this

Work
Opportunities for meaningful work in Africa in a digital economy

Skills
Youth skills required to access these opportunities

Learning
Effective interventions that will develop these skills
<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 – 08:30</td>
<td>Coffee and pastries</td>
<td>Aissata Sow (MCF)</td>
</tr>
<tr>
<td>08:30 – 09:00</td>
<td>Welcome, introductions and objectives for the day</td>
<td>Hennie Bester</td>
</tr>
<tr>
<td>09:00 – 10:00</td>
<td>How work opportunities are reshaped in the digital economy</td>
<td>Hennie Bester</td>
</tr>
<tr>
<td>10:00 – 11:00</td>
<td>Digital skills framework</td>
<td>Leonard Makuvaza</td>
</tr>
<tr>
<td>11:00 – 11:30</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>11:30 – 13:00</td>
<td>Techsavvy – qualitative research findings</td>
<td>Iske van den Berg</td>
</tr>
<tr>
<td>13:00 – 14:00</td>
<td>Lunch</td>
<td></td>
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<tr>
<td>14:00 – 14:30</td>
<td>Digital skills gap in Kenya &amp; Uganda</td>
<td>Boluwaji Oyewumi, Moringa School</td>
</tr>
<tr>
<td>14:30 – 15:30</td>
<td>Typology of digital skills interventions</td>
<td>Albert van der Linden</td>
</tr>
<tr>
<td>15:30 – 16:00</td>
<td>Coffee/tea break</td>
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<tr>
<td>16:00 – 16:45</td>
<td>Discussion on country approaches</td>
<td>Hennie Bester</td>
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<tr>
<td>16:45 – 17:00</td>
<td>Close out and next steps</td>
<td>Hennie Bester</td>
</tr>
</tbody>
</table>
## Who is here

<table>
<thead>
<tr>
<th>Participant</th>
<th>Position</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Aissatou Sow</td>
<td>Senior Program Manager</td>
<td>Mastercard Foundation</td>
</tr>
<tr>
<td>Audrey Cheng</td>
<td>CEO and Co-founder</td>
<td>Moringa School</td>
</tr>
<tr>
<td>Phillip Chikwiramakomo</td>
<td>Senior Director, International Growth and Partnerships</td>
<td>Samasource</td>
</tr>
<tr>
<td>Bitange Ndemo</td>
<td>Professor</td>
<td>University of Nairobi</td>
</tr>
<tr>
<td>Ariane de Lannoy</td>
<td>Chief Researcher</td>
<td>The Southern Africa Labour and Development Research Unit</td>
</tr>
<tr>
<td>Marie Githinji</td>
<td>Co-Founder &amp; Executive Director</td>
<td>Akirachix</td>
</tr>
<tr>
<td>Iske van den Berg</td>
<td>Associate</td>
<td>Cenfri</td>
</tr>
<tr>
<td>Roeland Monasch</td>
<td>CEO</td>
<td>Aflatoun</td>
</tr>
<tr>
<td>Divya Nambiar</td>
<td>Skills and TVET Lead</td>
<td>Oxford Policy Management</td>
</tr>
<tr>
<td>Boluwaji Oyewumi</td>
<td>Director of Business Development &amp; Growth</td>
<td>Moringa School</td>
</tr>
<tr>
<td>Hennie Bester</td>
<td>Director</td>
<td>Cenfri</td>
</tr>
<tr>
<td>Isabelle Carboni</td>
<td>Senior Engagement Manager</td>
<td>Cenfri</td>
</tr>
<tr>
<td>Albert van der Linden</td>
<td>Senior Associate</td>
<td>Cenfri</td>
</tr>
<tr>
<td>Leonard Makuvaza</td>
<td>Researcher</td>
<td>Cenfri</td>
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</table>
How work opportunities are reshaped in the digital economy
How work opportunities are reshaped in the digital economy

<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Dynamic</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Current jobs gain digital content</td>
<td>Existing jobs gain digital content as digital technologies change the workplace.</td>
<td>PAs and secretaries must now be familiar with digital diaries and book flights online.</td>
</tr>
<tr>
<td>2</td>
<td>New jobs created</td>
<td>Digital technologies create new kinds of jobs that did not exist before.</td>
<td>Software developers; digital security specialists, digital influencers</td>
</tr>
<tr>
<td>3</td>
<td>Existing jobs destroyed</td>
<td>Through automation and the replacement of old technologies</td>
<td>Video shops disappearing.</td>
</tr>
<tr>
<td>4</td>
<td>Distributed online work</td>
<td>Breaking up large tasks that can be performed by many people in distributed locations</td>
<td>Remote data capture for artificial intelligence – Samasource</td>
</tr>
</tbody>
</table>
## How work opportunities are reshaped in the digital economy

<table>
<thead>
<tr>
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<th>Dynamic</th>
<th>Example</th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td><strong>New linkages to income opportunities</strong></td>
<td>The sharing economy moving from the concept of ownership to a concept of buying a service</td>
<td>Uber, Taxify</td>
</tr>
<tr>
<td>6</td>
<td><strong>Reshaping economic sectors and their global distribution</strong></td>
<td>Robotics is reshaping industrial sectors as manufacturing is relocated from low-wage environments back to developed countries; industry boundaries becoming blurred as technologies allow companies to venture into other industries</td>
<td>Google developing autonomous cars; mobile network operators becoming banks.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Global competition</strong></td>
<td>Digitally delivered products can now be produced anywhere in the world, causing competition between local and foreign skills, urban and rural skills to be more intense than ever before.</td>
<td>Digital marketing in a rural Kenyan village can deliver to international clients; digital talent platforms</td>
</tr>
<tr>
<td>8</td>
<td><strong>Ecosystem effects</strong></td>
<td>Start-ups and established companies dependent on digital innovation and high-end skills locate to known digital hubs – creating new opportunities and jobs</td>
<td>Microsoft opening an engineering unit in Nairobi this week</td>
</tr>
</tbody>
</table>
Digital Skills Framework
Youth skills challenges

Information gaps

- Limited awareness on what skills to acquire and what jobs are available

Aspiration gaps

- Gap between the futures that young people envision for themselves and the opportunities available

Skills gaps

- Mismatch between the skills young people have and the requirements of industry

Source: OPM, 2019
Criteria to evaluate framework

- Simple to understand
- Useful to create awareness
- Useful for the design of policy and interventions
# Skills for the digital economy

## Transferable skills

<table>
<thead>
<tr>
<th>Consumer skills</th>
<th>Productive skills</th>
<th>Developer skills</th>
<th>e-Leadership skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handling information</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Digital interaction</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Content creation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Problem solving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety</td>
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</tr>
</tbody>
</table>

## Foundational skills

[Image] cenfri 10 years

[Image] Mastercard Foundation
Tech-savvy
Findings: experimental qualitative research conducted in Nairobi

14 May 2019
Objectives

- Conduct a real-life experimental test of digital skills of youth and educators.
- Verify findings of experimental research against opinions of HR officers, digital start-ups and informal businesses.
Qualitative research methodology

Experimental focus group discussions and individual depth interviews

• 30 individual in-depth interviews with:
  - HR officers
  - Digital start-ups
  - Range of informal businesses

• 13 focus group discussions
  - Experimental groups – a gamified challenge (refer to Handout 1)
  - Respondents completed and uploaded questionnaire (based on framework for digital skills)
Digital Competency
Experimental test
Digital competency experimental test

- Handling information (26%)
- Digital interaction (12%)
- Content creation (18%)
- Problem solving (20%)
- Safety (24%)

Digital skills
# Digital competency experimental test

## Design example

<table>
<thead>
<tr>
<th>Type of digital skill</th>
<th>Evaluation question</th>
<th>Weight (final)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handling information</td>
<td>Did you use the internet to get information about your activity?</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Did you download any pictures during the exercise?</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Did you take any screenshots (on the laptop or your phone) for the exercise?</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Did you store your documents on an online storage platform like Google Drive, Dropbox or One Drive?</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Did you have a table of information in your presentation or invitation letter?</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Did you use FORMULAS in your Excel or Google Sheets Costing?</td>
<td>5</td>
</tr>
</tbody>
</table>

(Refer to *Handout 3.*)
Demographics of respondents of FGD

NOTE: all respondents had smartphones
Results of the experimental groups and interviews
Digital competency experimental test
Respondent performance by category

Average score
Handling information
Digital interaction
Content creation
Problem solving
Safety

Development phase
Final phase
Digital competency experimental test

Respondent performance by occupation

Average score | Unemployed | Student | Teacher | Employed | Entrepreneur

- Development phase
- Final phase

Cenfri 10 years

Mastercard Foundation
Digital competency experimental test

Respondent performance by demographic

Average score
Privileged male
Privileged female
Unprivileged male
Unprivileged female

Development phase
Final phase
Film clips
Three exceptional respondents – where personality makes a difference

Alfayo
Erica
George
Digital competency experimental test

Key insights

• Overall, privilege and gender were good indicators of digital scores;
• Personality was the biggest differentiator within each.
• Indications are that respondents who were digitally competent scored higher
• Refinement to both the test and the questionnaire is indicated.
Perspectives from HR officers and digital start-ups on digital skills of youth

“What I have noticed here in Nairobi is that the majority of youth that I have met are holding a computer in their hands through the smartphone. All they need is to do is to be redirected to learn or to be encouraged to use this computer for their benefit over and above using it for games.”

Opondo
Subcontractor HR to UN attachee for HIV
HR

“Actual digital literacy is still wanting, it is still a challenge. People have gadgets and a lot of exposure but it is basically user-sided. I can use this device, I have access to the latest apps, I have Instagram but actual digital literacy is still a challenge to this person that has Instagram and does not know how to install Instagram.”

Nicholas
Digital Branding
Digital Start-Up

“The CV says they’re experts in that but it is only theory. Practical knowledge is not there. So you have to train them. You don’t take this person out. As long as the person has potential ... that’s all that matters.”

Nicholas
Digital Branding
Digital Start-Up
Digital start-ups

- All were “Developers”: self-starters, motivated, driven, ambitious, curious, optimistic about the future – this applied to males and females.

- All emphasized the value of a range of skills and competencies: success-driven, problem solving, agility, flexibility, innovation, working in self-directed teams or in associations.

- Some had privileged upbringing; some had formal digital skills training; all were self-taught in their specific field of interest.
Personality and attitudes of successful digital start-ups

In their own words

“The moment you stop learning, you become insignificant.”

— Nancy

“The moment you stop learning, you become insignificant.”

— Nancy

But being curious and trying to find out what more is out there; reaching out to people constantly; pestering them to mentor you, getting tutorials... So it was more of pushing myself against what I was offered in school.”

— Nancy

“I would say Kenyans are very chilled and relaxed and I don’t feel I’m pushed to my limit and that’s something I am constantly aware of because I don’t want to become mediocre. I have to constantly stay on top and evaluate the work I’m doing.”

— Victoria

Victoria

App Development

Digital start-up, 22 years old
Personality and attitudes of successful digital start-ups

In their own words

| Martin  
| Software Developer  
| Digital start-up  

“Whenever I face a challenge in that I do not understand something, I lock myself up and read books, internet, anything; until I understand it.

Twice I have done serious self-schooling. Each time there is something on the system that needs adjustment and I don’t know how to do it, I go underground and teach myself and practice until I find a solution.”

| Nyambura  
| Artist  
| Digital start-up, 26 years old  

“An internal sense of quality and high standards, a teachable spirit, somebody good at taking directions.”

“After basic computer literacy. I would teach how people can conduct themselves online, and how to think of themselves as a brand, how to communicate effectively on a digital space so even if they are talking to an employer they present themselves in a good manner.”
Informal businesses
Informal businesses

- Range of digital usage: from no computer on premises (secondary school with 200 learners) to fully automated car maintenance (see profile)
- Most owners had no formal IT training.
- Those who use computers are mostly self-taught.
- Competition triggers digitization: digital marketing, improved equipment; digital platforms used to upskill; digital solutions to be relevant (car maintenance, SME training); payments/transfer of funds
- Expectation of employees: Some require computer knowledge; most train internally.
HR officers

- Mostly looking and training for digital skills to meet current requirements, not considering and actively planning for competencies required for the future work environment.
Some myths about digital skills of the youth in Kenya

- School curriculum empowers the youth with digital skills.
- Most schools have computers for learners to work on.
- Educators at schools are digitally skilled.
- Parents encourage the youth to take IT subjects at school.
- Computer packages schools equip the youth with digital skills.
- Access to a digital gadget empowers the youth.
- Youth that are employed at bigger organizations are digitally skilled because the process to apply is online.
Some myths about digital skills of the youth in Kenya

- School curriculum empowers the youth with digital skills.

“Our system of education is the problem... Focusing on memorizing, taking an exam, you know; memorize... put everything you memorized on the paper; and I give you a grade as opposed to teaching skills...”

| Victoria  | App Development  | Digital start-up, 22 years old |

“Those are soft skills which are very poor for people that are coming from school. I would say the college ends to prepare them for the job market. It is very important to learn soft skills from school; problem solving skills, teamwork skills, communication skills and also time issue skills, like time management and these skills are totally being ignored and nobody cares about them.”

| Kibuku  | Manufacturing  | HR |
Some myths about digital skills of the youth in Kenya

- Most schools have computers for learners to work on

  “Even in high school they have computer studies. So if you talk to the teachers most schools have computers.”
  
  | Tony  
  | DS Computer Hardware  
  | Digital Start-Up

  “I do know that a lot of people that have access to a computer. There are other schools that I know that have a computer lab.”
  
  | Victoria  
  | App Development  
  | Digital start-up, 22 years old

  “The government is doing something, specifically about technical skills. You find that already, at the level of high school, people have computer labs where they do computer sessions, so they get exposed at high school level.”
  
  | Martin  
  | Software Developer  
  | Digital start-up
Some myths about digital skills of the youth in Kenya

• Educators at schools are digitally skilled (see Handout 6).
• Parents encourage the youth to take IT subjects at school.
• Computer packages schools equip the youth with digital skills (see Handout 7).
Some myths about digital skills of the youth in Kenya

- Access to a digital gadget empowers the youth

“Everybody has a computer at home, even a second-hand one or a desktop, whatever so.”

| Jenny   |
| Insurance |
| HR     |

“We need to expose the youth to the computers. Like how the government is doing something, they have a project where they are giving out laptops even at grade 1 level.”

| Martin   |
| Software developer |
| Digital start-up |
Some myths about digital skills of the youth in Kenya

• Youth that are employed at bigger organizations are digitally skilled because the process to apply is online.
Challenges identified
Challenges based on experimental groups

• How to ignite curiosity and encourage critical thinking

“But I think for me, the youth should be redirected to be more creative, using technology more creatively and curiously and I think that is where the problem of the youth exactly is... Their curiosity, from my experience, is a bit low. When that curiosity is low, even though there’s a lot of potential, there is a culture of wanting to be offered structure. And that culture comes out of our education system. It is highly structured. You work within it, you succeed within it and you don’t know what to do for yourself. So I think it’s about a combination of things. There is a digital capability, but is it coupled with a level of skills that they need to create opportunities for themselves?”

| Lilian |
| Youth Programs |
| HR |
Challenges
Challenges based on experimental groups

• Gender differences: male skills often superior

• Gender difference: males far more curious than females; more realistic about their skills and more willing to search for options to improve their skills

• Gap between privileged and less privileged
Typology of digital skills interventions
## Typology

<table>
<thead>
<tr>
<th>Personal</th>
<th>Formal education</th>
<th>Dedicated skills providers</th>
<th>Employers &amp; entrepreneurs</th>
<th>Product induction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-teaching</td>
<td>Pre-primary</td>
<td>Online training</td>
<td>Internships</td>
<td>Agents</td>
</tr>
<tr>
<td>Family &amp; friends</td>
<td>Primary</td>
<td>Class-room based</td>
<td>On the job training</td>
<td>Online</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>Bootcamp</td>
<td>In-house training</td>
<td>Remote</td>
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<tr>
<td>TVET</td>
<td>Awareness events</td>
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<td>e-Government</td>
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<td>University</td>
<td>Innovation hubs</td>
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<td></td>
<td>Mentorship programmes</td>
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</table>
## Evaluation criteria for digital skills initiatives

<table>
<thead>
<tr>
<th>Dedicated skill providers</th>
<th>Evaluation criteria</th>
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</thead>
<tbody>
<tr>
<td>Online training</td>
<td>Foundational skills</td>
</tr>
<tr>
<td>Classroom-based skills training</td>
<td>✓ ✓ ✓</td>
</tr>
<tr>
<td>Bootcamp</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>In-person awareness events</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>Innovation hubs</td>
<td>✓ ✓ ✓</td>
</tr>
<tr>
<td>Mentorship programmes</td>
<td>✓ ✓ ✓</td>
</tr>
</tbody>
</table>

- ✓: Excellent
- ✓: Good
- ✓: Average
- ✓: Poor
Country approaches
Opportunities and Challenges

- Government commitment
- Growing demand and ecosystem
- Linking learning to employment
- Co-working spaces

Challenges:
- Lack of funding to implement
- Mediocre learning outcomes
- Mismatch of learning to employment
- Low aspirations, lack of mentors and role models
About Cenfri
Cenfri is a global think-tank and non-profit enterprise that bridges the gap between insights and impact in the financial sector. Cenfri’s people are driven by a vision of a world where all people live their financial lives optimally to enhance welfare and grow the economy. Its core focus is on generating insights that can inform policymakers, market players and donors who seek to unlock development outcomes through inclusive financial services and the financial sector more broadly.

Thank you

Please engage with us:

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