A Synopsis

by

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CEO of DTBi at COSTECH
during
Ministry of Works, Transport and Communication
TANZICT End Conference
28th October, 2016
PRESENTATION

Thought provoking discussion

- ICT Policy
- Emerging ICT Trajectory
- Innovation
- Road to 4th Industrial Revolution
- Achievements
- Challenges to utilizing ICT
- Projected skills for 2020
- Conclusion
The National ICT Policy 2016 has been formulated and bill being finalised.

- Lays the foundation for innovation in public and private sector.
- Supports the realisation of Tanzania’s development vision 2025 & 5 year development & industrialization plan.
- Policy has 10 Pillars and provides challenges and there are solutions via an implementation strategy.
The application of ideas that are novel and useful.
Creativity is the seed of innovation - the ability to generate novel and useful ideas
Unless it’s applied and scaled innovation is still just an idea
In industrialization, leaders of innovators don’t innovate the product - they innovate the factory/industry.
INNOVATION...

TANZICT

- Through Buni created a community spirit (living lab)
- Support for pre-incubation, training for women entrepreneurs, community events and grant funding
- With DTBi provided BDS & hands-on support
- Support open innovation (living lab approach) versus closed innovation (Current Industries in Tanzania)

TANZIS

- Extends TANZICT initiatives and building STI in Tanzania
- Focus on STI business environment/industry and innovation fund
ROAD TO 4\textsuperscript{th} INDUSTRIAL REVOLUTION

THE 4 STEPS OF THE INDUSTRIAL REVOLUTION

1\textsuperscript{st} industrial revolution
- by installation of mechanical production equipment supported by water and steam power
- First mechanical loom 1784
- First assembly line slaughter houses in Cincinnati 1870

2\textsuperscript{nd} industrial revolution
- by installation of mass production based on division of labor supported by electrical power

3\textsuperscript{rd} industrial revolution
- by use of electronics and IT for further automation in production
- First programmable logic controller (PLC) Modicon 084 | 1969

4\textsuperscript{th} industrial revolution
- based on cyber physical systems

TIME
- END OF 18TH CENTURY
- BEGIN OF 20TH CENTURY
- BEGIN OF THE 70\textsuperscript{IES}
- 20TH CENTURY
- TODAY

LEVEL OF COMPLEXITY

SOURCE: DPNI 2011

ACHIEVEMENTS

**Infrastructure**
- Investment in local Internet Exchange Points
- Construction of the National ICT Backbone (NICTBB) & pricing reduced.
- Tanzania Education Research Network (TERNET) connected about 14 Institutions with Operations Centre at COSTECH.

**Regulatory**
- ICT Policy, EPOCA bill, plus other related policies/bills/regulations & soon STI policy
- Soon gap analysis to be conducted on Tanzania current status on ICT manufacturing and assembly, and why!
ACHIEVEMENTS…

Institutional

- TCRA, COSTECH, ICT Commission & Others
  Innovative Solutions (excluding closed innovations)
  - DTBi & BUNI at COSTECH pioneering the mindset of the ICT entrepreneur & DTBi scaling them into Startups and catalyzing them to be the next ICT industries
  - DTBi working on 3D printing to manufacture plastic limbs and mucus removers (nasal aspirators) from infants at birth in hospitals as part of post-natal care
  - DTBi providing an ICT solution to Airtel and VETA for eLearning to catalyse small scale technology industries
ACHIEVEMENTS...

Sengerema Living Lab (Design thinking)
ACHIEVEMENTS…

Best 2015 Global Young Innovator at ITU Conference in Hungary

Signing an MoU between DTBi & Tigo on scholarships for skills upgrading in ICT at University level
CHALLENGES TO UTILIZING ICT

- Leveraging Innovative Startups – content & problems as opportunities to commercialization – *informal to formal*
- Mindset – demand & supply side – *Most Important*
- Infrastructure - rural/urban divide (access/usage/content)
- Skills - trained knowledgeable local experts and users
- Fear of failure and supporting network (cultural & academic)
- Nationalism (local AIs giving back) and ethics
- Institutional support to provide innovation and entrepreneurial scale-up of start-ups
## PROJECTED SKILLS FOR 2020

### (3rd & 4th IR)

### Top 10 skills

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<th>Rank</th>
<th>Skill</th>
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<td>Complex Problem Solving</td>
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<td>2</td>
<td>Critical Thinking</td>
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<tr>
<td>3</td>
<td>Creativity</td>
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<td>4</td>
<td>People Management</td>
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<td>5</td>
<td>Coordinating with Others</td>
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<td>6</td>
<td>Emotional Intelligence</td>
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Source: Future of Jobs Report, World Economic Forum
CONCLUSION

- Use ICT policy as means to have creative & entrepreneurial innovation
- Make a long-term investment in innovation culture that takes strategic leapfrogging, skills upgrading & knowledge transfer into consideration
- Have a scale-up strategy with the right nationalistic mindset for AI and uptake for open innovation
- Have the passion to make a difference in the community that is not driven by monetary considerations only
- Institutional support for entities providing innovation and entrepreneurial scale-up of start-ups