Strategies and Potential for exploiting Regional & Global STI Advances and Networks to Enhance Collaboration among Academia, Public and Private Sectors


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Why do we collaborate?

- Bringing together different expertise and experiences to accomplish a common goal (efficiently, required quality and cost effectively).
- It should be driven by a positive intent.
- There must be KPIs; certain measurables to inspire and stimulate our energies to achieve that purpose.
- And foundation of all these is TRUST among academia, public and private sectors.
  - TRUST, SPEED, COST function
What is the rallying call?

- Existence of a rallying call helps galvanise players to collaborate.
- What is the urgency? Japan and the World War 2 leading to Kamikazes
- The rallying call can be a well articulated national or regional Vision or Campaign to solve specific society challenge;
  - The East Africa Vision 2050 anchored onto as a rallying call.
Collaboration tools

- Several connectivity tools through the internet have enabled collaboration.
- We recently completed a project to co-author a book on Tanzania’s Industrialization Journey.
- The internet has tremendously reduced time between when you reach out to the time one gets a reply.
- Available tools are such as: WebEx, Skype, GoToMeeting, Cloud, Box.
- These allow people to collaborate on a project regardless of their physical location.
- At GE, a business located all-over the world employing close to 400k people effectively employed the use of Skype.
How has academia, public and private collaboration worked elsewhere?

The textile industry in United Kingdom

- Developed in Manchester with heavy input from research and development.
- Richard Arkwright created the first cotton mill, introduced use of steam engine in 1786.
- Mechanization of textile industry made Manchester the World’s first centre of mass production.
- Manchester led in the ‘New Way of Thinking’ where intellectuals helped shape the new way of doing things.
- Scholars from various parts of Europe converged in the city:
  - ‘What Manchester does today, the World does tomorrow’
- Through re-investment, John Dalton, the father of atomic theory cofounded Manchester Institute, now UMIST.
How has academia, public and private collaboration worked elsewhere?

Additive manufacturing

- In 1974 Dr. David Jones laid out the 3D concept in the Journal New Scientists.
- Nagoya Municipal Industrial Research developed the additive manufacturing equipment.
- Several others followed in developing the concept with efforts to commercialize.
  - Stanford, Carnegie, Extrude Hone Corporation, MIT, Georgia Institute of Technology, Soligen Technologies, Z Corporation
- Additive manufacturing at GE: Aviation, Healthcare, Power
How has academia, public and private collaboration worked elsewhere?

The Huawei Story:

- Founded by Ren Zhengfei who worked in the military engineering department.
- Local researchers did reserve engineering of a Private Branch Exchange (PBX) switches.
- Their aim was to compete and replace imported equipment.  
  - **Rallying call!**
- Global leader in 5G tech, investing more than USD 13 bn in R&D.
- Collaborating with Fudan University to introduce AI in medicine
How has academia, public and private collaboration worked elsewhere?

EABL’s Senator Keg:

- KBL introduced Senator Keg in 2004 in Kenya.
- B.I.G 248 Team
- Price, Product, Place, Promotion

Government collaboration

- Tax remission

Outcome:

- From less than 1% to more than 50% volume, more returns to EABL
- Regulated product
- Increased Government revenue
- Local barley farmers growth
- USD 2 billion brewery in Kisumu
How has academia, public and private collaboration worked elsewhere?

Uganda’s Innovation Hub:

- The Innovation fund under ministry of ICT and National Guidance
- Set up UGX 15 billion for this year
- Incubation centre being built by the Army to support young and upcoming innovators.

Results:

- Software developed for use in Tertiary institutions for various administrative tasks like admission, payroll
- Accessible for early start-ups
Beyond collaboration tools
Pay attention

**Mpemba effect**

A graph of freezing rates for the two water samples

- **Erasto Bathromeo Mpemba**
- A form 3 student at Magamba SS Tanzania in 1964
- Ice-cream making experiment
- Mpemba and Dr. Denis Osborne published in 1968
Funding
Human resource development

Practical training, healthy souls

In theory there is no difference between theory and practice, in practice there is!
Inter-University Council for East Africa

Thank You!