

# The Evolution of Academic Discourse and Policy Making on Innovation; Can Africa Learn without Practice?

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## Outline of the Presentation

- Introduction
  - Motivation for the subject of presentation
- Historical shifts of innovation models and implication for Africa
- Some concluding remarks

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## Introduction cont..



- To be fruitful – especially for Africa - the debate we are having today must be traced back to the post war period when models and policy making on innovation (or rather S&T) started to be crafted.
  - Models are interpretation of reality (and therefore knowledge on a given phenomenon).
  - And knowledge is normally incremental, additive and grows:
  - If this general trend is not followed, then questions have to be asked and knowledge gaps addressed.

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## Introduction cont..

- This could be the case for Africa which was not part of the empirical evidence that formed the shifting models, debates and policy making on innovation.
- To date 4 major shifts can be identified (informed by Roy Rothwell's 5 innovation models):
  - Technology push
  - Demand pull
  - NSI
  - Non market (?) innovation models

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## Historical shifts of innovation models and implication for Africa



### 1) *Technology push (beginning of the 50s):*

- innovation were thought to be triggered by basic research in science, leading to wide spread marketing of new products and use of new processes and by implication economic growth .
- seem to have been triggered by the World War II military science; especially the Manhattan project.
- The project demonstrated that scientific project could be large and hierarchically organized and achieve pre determined goals (Hallonsten ,2009).

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## Historical shifts of innovation models and implication for Africa cont..



- Led to Bush's (1945) master piece on *Science: the endless frontier*, which to a large extent influenced not only the American S&T policy, but rest of the world.
- R&D inputs became major measures of innovation, leading to increased budget to R&D.
- To date the model seems to have died –at least in terms of debate, but in policies it is still much alive; very unfortunately for the context that was not part of the evidence for debate, such as Africa.

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## Historical shifts of innovation models and implication for Africa cont..



- For Africa (innovation policies are still very much science policies; emphasizing the supply side of knowledge.
- Africa with its 1% of GDP: where is this figure coming from? Why not more or even less? What is the implication of not researching on and debating this?

### 2) *Demand pull* (beginning of the 60s)

- A result of limitations of technology push
- Emphasize the dynamics of market demand as a catalyst for technological change:

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## Historical shifts of innovation models and implication for Africa cont..



- Project **Hindsight** on the role of basic research on innovation – recognized need more important than science.
- **SAPHO** project on successful and unsuccessful innovation: successful innovation are those that managed to establish a worthwhile market, but also emphasized coupling - that innovation is best represented by coupling between tech push and demand pull.
- **SAPHO**- recently revisited and reconfirmed (Radosovic & Yoruk, 2012) – demand critical for innovation

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## Historical shifts of innovation models and implication for Africa cont..



- According to Porter (1990), it is not only the quantity, but also the quality of home demand that determines the international competitiveness of a nation.
- Despite the critical importance of the demand/need pull for innovation, debate on this has vanished (McMeekin et al. 2002; Diyamett, 2010 for a review)
- Along side is less emphasis on the demand side innovation policies.
- What is the implication of this to the current situation of Africa, where demand for knowledge for innovation is very weak?

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## Historical shifts of innovation models and implication for Africa cont..



- Where markets are not sophisticated enough to demand high quality goods and services?
- In the absence of demand side research and discourse that can inform demand side policies *Science: the endless frontier* can easily turn into *Science: the endless budget* (Godin, ND)  
( A mockery from the director of the US Bureau of Budget, Harold Smith on Bush's master piece that was by then guiding the US S&T policy)

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## Historical shifts of innovation models and implication for Africa cont..



### 3) *NSI model* (beginning the 80s)

- Brought into the light context specificity of innovation – even more reason for the above arguments.
- But confirmed the demise of the demand pull model; **users central**, but only referred to as sources of learning.
- What is stressed is *learning* rather than incentives for innovation as a result of the demanding customers or meeting of the emerging needs.
- Consequently policy emphasis not on stimulating demand but interactive linkage.

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## Historical shifts of innovation models and implication for Africa cont..



### 3) *Non market innovation models* – in the making

- Must be remembered that innovation is traditionally understood – including in the previous models - in economic context.
- Current social and environmental challenges are moving away the debate from economic and market understanding of innovation, to social.
- Reason: arguments that market driven innovation excludes the less able section of the society from participating in the market economy; it is also not good for the environment

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## Historical shifts of innovation models and implication for Africa cont..

- But also because (and I think above all) capabilities for market innovation has already been built elsewhere: “*We want to differentiate social innovations from ordinary innovations because the world is already amply equipped to produce and disseminate ordinary innovations.....*” (Phil et al 2008, pp 39).
- But what would be the implication for Africa that is currently focusing on industrializations as its major source of growth? Also goal 9 of the SDGs

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## Governing the Building of the technological and innovation capabilities in Africa cont..

- Economic and market led innovations are still the major source of poverty alleviation through growth and employment generation, including of the poorest (goal 8 of the SDGs).
- Private sector still a major engine of growth
- According to Ahlstrom (2010) growth is considerably more important than foreign aid and welfare redistribution programs in improving people’s well-being, particularly over the long run.

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## Concluding Remarks



- Model represents a unique response to a particular challenges that each country/region is facing at a given time – developed countries are amply equipped with market led innovations, while Africa is not.
- Countries should be encouraged to develop their own models, reflecting current challenges.
  - Any meaningful model of innovation and useful policy for Africa must revisit the earlier models in the context of Africa; but of course in the light of the current situation.

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## Concluding Remarks cont..



- There is however a challenge for Africa: Africa does not have adequate expertise on **innovation and development** – scholars and policy makers who can challenge the current models and raise policy relevant questions.
  - Basically the essence for the initiation of AfricaLICS as an organ for **innovation and development** capacity building in Africa.
  - African governments and regional bodies; and all well wishers of Africa should support this effort.

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