



ATPS-Tanzania

Innovation for Competitiveness: What it is and how it can be Nurtured

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Presentation Outline

- Introduction
 - Competitiveness and what it entails
 - Innovation as a major factor of Competitiveness
- The Concept of Innovation
 - Definition
 - Distinguishing innovation from invention
 - Types of Innovation
 - Degrees of novelty in innovation
- Major drivers of innovation
- Some observed shortfalls in the Tanzanian National Systems of Innovation
- Some concluding statements

Meaning of Competitiveness

- In economic terms, competitiveness reflects a position of one economic entity (country, industry, enterprise, household) in relation to other economic entities by comparing the qualities or results of activities reflecting superiority or inferiority.
- Superiority in this context imply the ability of an economic entity to offer better products more efficiently than the competitors.

Meaning of Competitiveness Cont..

- The principal feature of competition is conflict of interests between entities, generally expressed by their desire to be more successful than the others.
- Thereby, competitiveness is **an ability to co-exist** with the other firms in the conditions of conflict of interests.

Meaning of Competitiveness Cont..

There are 3 levels of competitiveness (Garelli 1997, p.1).

- **Ability to survive** - the lowest level of competitiveness. It refers to the ability to adapt passively to the competitive environment without significantly changing or developing itself (continuously being pushed to the less attractive areas - danger of running out of options).

Meaning of Competitiveness Cont..

- **Ability to develop** - the medium level of competitiveness, refers to the ability of a unit to respond actively to the changes in competitive environment and thereby improve its own qualities and make its activities more efficient in order to improve its competitive position – trying to catch up with the leader.

Meaning of Competitiveness Cont..

- **Superiority**- the highest level of competitiveness. This refers to the ability to influence competitive environment through more efficient operation and/or better qualities than competitors – lead position.

Market share and profitability of a company are ultimate indicators of competitiveness; and the real competitor shapes the market rather than respond to it.

Meaning of Competitiveness Cont..

- Competitiveness can normally be at local, regional and international levels.
- However, the real competitiveness is tested only at the international level.

Competitiveness and Innovation.

- Long-term superiority over competitors (leadership), catching up and avoidance of marginalization can only be achieved through continuous innovation.
- Innovation is therefore a cornerstone of competitiveness.
- Firm level surveys in US, Europe, Korea, Brazil confirm the above (Patel, et al.2008)

The Concept of Innovation

- Definition of innovation

The essence of innovation is novelty. It is a concept of very general use. In economic and competitiveness context, innovation is successful creation, development and marketing of new goods or successful application of new techniques or ways of working that improves the effectiveness of an individual and organization (Archibugi et al., 1994)

The Concept of Innovation Cont.

- Distinguishing innovation from invention
 - Invention is a creation of something new, which may or may not be introduced to the market place or any useful application
 - Innovation happens **only** when an invention is successfully introduced to the market place, or any other useful application

The Concept of Innovation Cont.

- Types of Innovation

Inherent in the definition of innovation is four major types of innovation

1. **Product Innovation** (marketing of new or improved products)
2. **Process Innovation** (introduction of new or improved methods of production)
3. **Organizational Innovation** (changes in organizational structure and/or administrative process)
4. **Market Innovation** (opening up of new markets or new marketing strategies)

Major drivers of innovation

- **Technology push (1950s and 1960s)**
 - innovations believed to be triggered by basic research in science
- **Demand Pull (60s and 70s)**
 - innovation triggered in response to demand for new products
- **Interactive model and systems of Innovation (from 80s to date).**
 - Innovation is achieved through interactive learning (producers, suppliers, buyers, competitors, R&D); and the government as a match maker.

Degrees of Novelty of Innovation

- **Completely New** (New to the world) – R&D important
- **Incremental** (Modifications of the existing technology) – R&D may be important
- **Imitation or adoption** (new to the firm) – R&D normally not important

Innovation capabilities are normally systematically built from the lower levels (Case of Japan, Korea, Asian Tigers)

Major drivers of innovation Cont..

- Three of the actors (popularly known as “triple helix) are crucial in moving up the innovation capability ladder
 - Firms and farms** (conscious innovation strategies)
 - Government** (Policies, incentives and regulation)
 - Academia** (R&D, and Policy research – “science for science policy”)



Some observed shortfalls in the Tanzanian National Systems of Innovation.

- Lack of conscious innovation strategy at firm levels (study of one sub-sector in the manufacturing)
- Over emphasis on the linear model of the push type in the policy circles –science an endless frontier
- Policies not informed by the underlying real problems or systemic failures/inadequacies in the national systems of innovation.



Some Concluding Statements

- In a free market economy continuous innovation is indispensable for firms to stay alive
- Innovation should be understood in its broadest form, rather than just first to the world, or even worse, result of research in science.
- Other less popular types of innovation such as organizational and market innovations are equally important – they can easily change competitive position of a firm.

Some Concluding Statements Cont.

- An entrepreneur can not innovate alone: he/she needs other firms (buyers, suppliers, competitors), government and the academia.
- Continuous identification of system failures/inadequacies in the national systems of innovation (policy research) is crucial for evidence based innovation policies



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Thank you for your Attention!

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