

NRENs as Catalysts for Development: Learning from Eastern & Southern African Networks

**(Typological Formation & Development-Oriented
Tools)**

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RENs & ICT4D

- ICT for development (ICT4D) are initiatives that transform social/economic/political conditions via technology (Heeks, 2018)
 - Relative and indirect impact
 - Connections via communicating the purpose, outcomes, and the social value work
 - **ICT actors play an important role in formation and extension of ICT4D project through extended networks, which enhances effectiveness (Thapa, 2011).**
- NREns, as ICT4D projects:
 - Manage competing goals and expectations of supporters/funders,
 - Balance project priorities,
 - Address the "awareness gap" (Foley, 2016); and
 - Negotiate multiple interactions on the local, national, and international scale

Purpose

- Qualitative case analysis: ways in which NRENs connect to development efforts in Southern and Eastern Africa.
- Five cases from a total of 15 members of the RREN, UbuntuNet Alliance.
- Result was NREN typology based on prevalent configurations of the cases.
 - Develop recommendations

Typology Development

- Sampling & Participants

- Critical cases (n=5)
- CEOs, CTOs, PIs (n=9)

- Data collection

- Interviews & documents

- Data analysis

- Process & causation coding
- Identifying attributes

- Grouping cases

- Clustering attributes

- Ideal type construction

1. How do NREN leaders describe the ways in which they contribute to development via interactions with government and private sector entities?
2. How do NREN leaders describe the tools they use to encourage a development-orientation?
3. What development-oriented attributes emerge from a contrasting of the NREN cases?
4. In what ways do the attributes cluster together to create specific NREN configurations?

Typology of Ideal Type NRENs

Attributes: **context** (governance characteristics), **interactions** (gov't/private sector/universities/etc.), **communications** (methods of communicating NREN work), **performance** (indicators and strategies of evaluating NREN work), and **projects** (connectivity, capacity building, etc.).

- Development orientation is characterized by participants descriptions, typified by vague/broad/specific associations to development goals.

Attributes	Network Type & Configurations		
	<i>Principal-Agent</i>	<i>Community-Driven</i>	<i>Entrepreneurial</i>
<i>Context</i>	Hierarchical	Collaborative	Contingency
<i>Interactions</i>	Government-driven	Constituent-driven	Need-driven
<i>Communications</i>	Members	National	International
<i>Performance</i>	Government-driven	Regulator-driven	Project-driven
<i>Projects</i>	Limited	Varied	Diverse
Development Orientation	<i>Vague</i>	<i>Broad</i>	<i>Specific</i>

Principal-Agent NREN

- Refers to management models where a principal **contracts** an agent with specialized expertise and the principal determines the nature of the relationship
- Development-orientation: Vague references to education

Context: Hierarchical (gov't dictates agenda)

Interactions: Nationalized telecom, vulnerable to awareness gap

Communications: Limited – out of date website

Performance: Subject to political exigencies

Projects: Connectivity, capacity building (intermittent)

Challenges: Cost and Geography

Community-Driven NREN

- Collaborative, horizontal formation, where university (and other) members develop the NREN agenda, with input from the government and private sector
- Development-Orientation: Broad reference to gov't goals

Context: Horizontal – CVs main drivers

Interactions: Telecom corporate responsibility, gov't support, North-South

Communications: Consistent – web, projects, partners

Performance: Regulator driven

Projects: Focus on sustainability and relevance to community (i.e. HPC, etc.)

Challenges: Bureaucracy and Telecom perceptions

Entrepreneurial NREN

- Characterized by “experimenting with promising new technologies, being willing to seize new product-market opportunities, and... predisposition to undertake risky ventures” (Lumpkin & Dess, 1996, p. 136).
- Development-Orientation: Specific, inclusion of SDGs

Context: Contingent – adapts its governance, plans, projects, and goals in response to changes in the context and culture of its environment.

Interactions: Robust private sector relationships due to frequent negotiation; partnerships with civil society; North-South-South

Communications: Diverse
Performance: Clear objectives

Projects: Diverse, entrepreneurial (i.e. business incubation)

Challenges: Change

“Tools” for development-orientation

- **Project development**
 - Culture of cooperation
 - Contextualized projects
 - Address divides: gender, disability, ethnicity e-exclusion
 - Women and girls are “excluded” on multiple levels as *decision-makers*, *contributors*, and *recipients* of the ICT development benefits

Make it clearer to them how they can share resources and to facilitate that. And here I have in mind resources like high... advanced research equipment, which are available in some institutions, could be shared by others, but also staff. So because of that, it has not been very easy for them to know how to work together. **So we had to sort of nurture that culture of cooperation of sharing.**

I think I want the NREN to focus a lot more on how we're going to support the research because I believe the researchers once they're given whatever they need to be given. Then they will be looking at current problems that we've got as a nation and being able to come out with the solutions which will be **locally tailored.**

“Tools” cont’d

- **Communicating to stakeholders**
 - Build human networks in different places
 - Be faithful to policy commitments
 - Maintain objectivity and clearly documenting policy positions
 - Use projects to spread the NREN “gospel”

Campuses in the regions far away from the capital city always felt neglected. From the [country x] perspective, we did not have a sufficient budget to reach out to these campuses at the time. But thanks to our DEA activities in these regions, the campuses took it upon themselves to find all ways possible to connect to the network. This was possible because the success of the DEAs got them to believe in the [country x] gospel and the ability of the [country x] technical team in supporting and helping them through all their campus challenges. The capacity-building program have been some of the strongest drivers of the growth...in 2014 we had only four campuses, now we have about 85 campuses. That growth has mainly been due to that.

“Tools” cont’d

- **Strategic planning**
 - Many NRENs *do not* strategically plan
- **Managing government interactions**
 - NRENs connect to government development goals;
 - Agenda alignment continue to prioritize NREN goals;
 - NRENs drive development agendas forward due to knowledge of institutional challenges.

[Country Z] shared a recent newsletter where they outlined **new strategic objectives**, which included:

- Improved management and governance
 - Enhanced human resource management
 - Improved promotion and marketing
- ...“laid out a comprehensive monitoring and evaluation plan that will ensure successful implementation of the targets to be achieved.”

Government, I think, is really important to help them understand the role that the NREN plays in the areas where they are concerned. Of course they are interested in research, especially research which leads to solving societal problems, so you need to highlight the role of the NREN in that area...so if you can show them that what you do can help speed up or catalyze the development of **jobs for youth**, I think that is another key factor which will determine how they relate with you.

What's next?

- Expand typology with more cases
- Make stronger connections to national/regional development indicators
- Develop more robust matrix that shows combinations of attributes (more fluid, less fixed configurations)
- Make work less “research-y” and more useful to NREN leaders.

For more information, email me at
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THANK YOU!