

BUILDING AN INFORMATION SOCIETY: CURRENT APPROACHES, CHALLENGES AND THE WAY FORWARD.

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Abstract

This paper defines the concept behind the digital divide and provides reasons why this divide should be bridged. It looks at the existing approaches for bridging the divide as prescribed by the developed nations and adopted by the developing countries.

These approaches are critically reviewed and their weaknesses highlighted. A better model based on the Information & Communication Technology (ICT) Value Chain is presented and suggested as a more holistic approach to tackling the digital divide problem. Approaches that are ignorant of the ICT Value Chain are creating a conducive environment for the digital (re)colonization of Africa and other developing nations.

The paper concludes with a few strategic and tactical points that maybe adopted by developing countries as a more effective and sustainable way of bridging the digital divide.

Keywords: *Digital Divide, ICT, Bridging, Value Chain, Digital Colonization*

1. Introduction

Bridging the digital divide has been a prominent theme in recent times. What indeed is this Digital Divide and why must it be bridged? What are the methods and current practices prescribed for bridging this divide? What are the constraints experienced so far in those approaches and what 'digital' opportunities exist especially for developing countries? At what levels of participation are Kenyans playing within the ICT Value Chain? What are the necessary strategies (skills, educational, policy, etc requirements) for any workforce wishing to effectively participate or reap the benefits of an Information Society?

This paper does not claim to have answers to all these questions, but instead focuses on providing a foundational background knowledge with a view to stimulating discussions and suggestions on the way forward.

2. Background Knowledge

The Digital Divide: What it is?

The digital divide is described as the latest form of discrimination; i.e. between those who have access to Information Communication Technologies and those who do not- due to economical, geographical, racial or other factors. To understand the reason why this should be an issue, one must look at the historical trends in respect to economic activity. Ford and Whaley (2003) elaborated this clearly as quoted below:

“Since the founding of the US, changing forms of technology have dominated and often dictated the social-political-economic role of its people. As the technology focus of the US economy shifted from shipping to farming in the 17th century to manufacturing and to service at the end of the 20th century, the roles and well-being of its citizens also shifted. Those individuals and groups that owned, worked, invested in, or had access to and used the dominant

technology of their day prospered while others lagged behind.” [1]

The dominant technology of today happens to be ICT (Information Communication Technologies) and those who have, own, work, invest, or use/access it have an edge over the others.

Why should this gap/divide be bridged?

At the moment western countries are falling over each other trying to out-compete themselves in their effort to close the gap between those with ICT access and those without (read: the Developed vs. the Developing Nations). Their reasons advanced for this sudden show of generosity range from 'social responsibilities' to 'philanthropic' inspirations amongst others. It remains to be seen if indeed these are the sole motives driving our so very dear 'donor' partners to bridge the digital divide.

What are the methods and current practices prescribed for bridging this divide?

At the moment, most focus is on increasing the penetration levels of ICTs in developing countries. The strategies include increasing teledensities (number of telephones per 100 citizens), increasing the number of computers per unit (100) group of citizens, etc. Providing access to and within developing countries has largely been the main concern.

It is significant to note that the digital divide exists not only between the developed and the developing countries, but also within those countries. For example, the urban communities in Kenya are said to enjoy better levels of access to ICTs as compared to their rural counterparts (strong evidence from TKL, which shows that 80% of their revenue is collected from Nairobi City despite having its network across the nation. This implies that most tele-traffic activities are initiated and terminated within Nairobi).

The question however remains: Does increasing access levels to ICTs effectively close the digital gap?

3. What are the constraints experienced so far in these approaches?

The thrust of increasing access to ICTs manifests itself in the following dominant strategies:

Privatisation of Public Telecoms Providers:

Governments have continued to hesitate on privatisation initiatives for various reasons, ranging from the lack of political will to deal with the repercussions such as retrenchment of workers which is an inevitable consequence of privatisation of state corporations. Other reasons may arise out of ignorance such as citing security reasons, while others include corruption from those in power trying to reposition themselves with a view to be either the new owners or competitors of the new privatised entities.

Provision of regulated and competitive ICT environments:

Governments have made tremendous strides in this area, having constituted and established communication commissions charged with the duty to regulate the industry. However, most of the staff employed is ill-equipped to effectively deal with a market that is rapidly changing and bringing new regulatory demands every other day. Where competencies exist, governments have interfered with what could otherwise have been good professional conduct from these employees.

Zero Rating of ICT related equipment and products

Governments have offered tax concessions on computers but failed to extend the same to com-

puter related products. This defeats the whole intention of making the ICT experience affordable to the common citizen. It is a fact that software is in general more expensive than the hardware, so making the hardware cheaper without a complimentary action on the software is equivalent to a common marketing gimmick of saying that you shall have a FREE soda IF you BUY the lunch. In most cases if one can afford the lunch, the free soda is often immaterial.

eGovernment Strategies

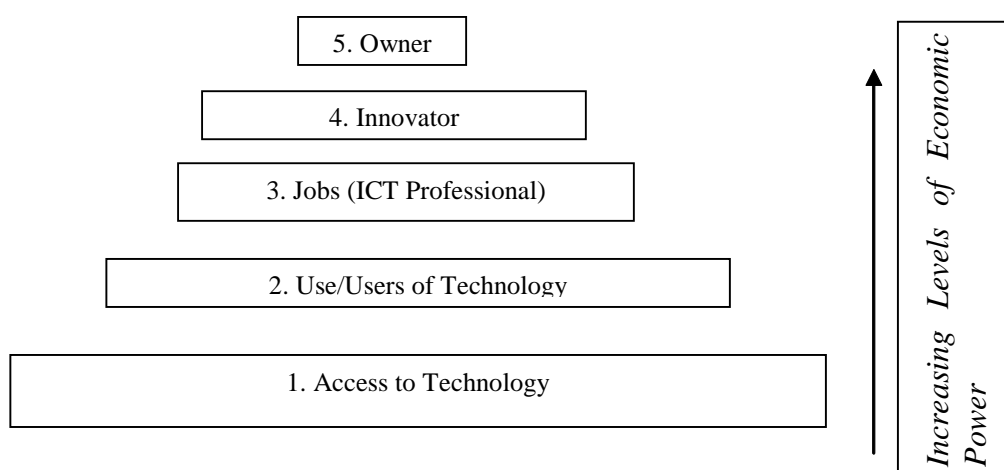
Governments have embarked on aggressive campaigns to provide services through ICTs. Strategies to enable citizens to complete tax returns online, follow parliamentary proceedings online, renew licences (driving, business, passports, etc) online and many others sound very nice on paper. However, when faced with a choice between putting drugs in hospitals, repairing roads or increasing security one does not need to be a treasury guru to see where the limited funds shall go.

All the above interventions are good as long as their corresponding problems can be resolved. However, this alone may not answer our earlier question: “Does increasing access levels to ICTs effectively close the digital gap?”

4. What ‘digital’ opportunities exist especially for developing countries?

To do full justice to the above question, one must have the full picture of the Information Technology ‘Value Chain’. The diagram below shows the extent and the dynamics that prevail within the ICT industry.

Diag 1[2]



- **Access to Technology:** This has been the main focus of bridging the digital divide where broader access of the communities to ICTs is encouraged.
- **Use of Technology:** It is one thing to have access but quite another to be empowered to use it. In the absence of ICT skills and literacy, providing access becomes a stillborn initiative.
- **Jobs (ICT Professionals):** The professionals in the ICT industry includes the telecom engineers, network administrators, web designers, programmers, trainers amongst an ever growing list of new job identities that come up with each emerging technology.
- **Innovator:** These are those individuals or institutions with sufficient resources, experience and insight to create new ways of doing the old things as well as totally new things previously

un-thought of, but now made possible through emerging technologies (e.g. wireless technologies, short messaging systems, SMS, WWW, etc)

- **Owner:** These are those individuals or institutions with the natural right to own their innovations or with the ability to literally pay for the right to own the new innovations.

5. At What levels are Developing Countries Playing?

Most developing countries are playing at the lower Levels 1, 2, & 3 and even then they do not play in significant proportions. This means that developing countries are only beginning to increase access to technology, use these technologies and create jobs around them. Most donor communities are particularly focused on Level 1 and 2 i.e. supporting strategies to increasing provision of access to ICTs and encouraging increasing use (literacy levels) of the same. There is less focus from donor communities to support long term strategies that would later on enable developing nations to play at the 'top' of the league i.e. to develop ICT professionals, to encourage innovation and ownership of ICT related activities.

Indeed cases exist where multinational corporates are increasingly reducing the sizes of their IT departments with the valid reasons that professional IT related services can now be comfortably executed from their head offices in London, Paris or New York- courtesy of broader and higher quality levels access now available within developing countries.

6. What are the implications?

With such a trend, developing countries would simply provide a broader market for exploitation from developed economies. Kenyans and their counterparts from the region shall become very active consumers of ICTs but shall never effectively benefit economically from the same. This is because the ultimate beneficiaries shall remain those who deliberately chose to play at the top of the information technology value chain. This phenomenon has been described as tele-colonisation [3] by Noguera (2002) but I prefer to call it digital colonisation. Developing countries are at risk of a second scramble and re-colonization of Africa as developed nations rush to extend their market horizons.

7. Conclusion (necessary Strategies)

Indeed Access to and use of ICTs are the beginning steps to bridging the digital divide; but they should never be an end in themselves. If policies and other interventions are created purely on these two steps, then closing the digital gap shall be realised in statistical terms but not in economical terms. The gap between the poor (developing nations) and rich (developed countries) shall widen proportionally with increasing levels of ICT access.

Kenyans must welcome developments and progressions in ICT use and access but must go a step further to draw up strategies that would empower communities to play at higher levels of the information technology value chain. On a fairly strategic level here are some suggestions for effectively playing at the top three layers:

7.1 Strategic Action:

Jobs (ICT Professional):

- Government and Institutions must introduce ICT skills and training at a very low level: - primary education.

- This commitment should be in real terms i.e. deliberate budget allocations, time frames and other resource commitments must be made.

Innovation & Ownership:

- Government and institutions must encourage innovation by placing policies that promote entrepreneurship spirit.
- This may be in terms of investing and supporting ICT incubators, research efforts and institutes.
- Providing comprehensive legislation to protect intellectual (ICT related) property.
- Encouraging Public/Private Sector initiatives and knowledge exchange.

On a short-term and tangible basis, the following quick points maybe done to increase effective participation within the IT Value Chain.

7.2 Tactical Action:

Access to Technology:

- Rapid Liberalisation of ICT Services.
- Rapid completion of privatisation of Public Utilities within the ICT Sector.
- Effective Regulation to ensure the rural communities don't get marginalized due liberalisation.
- Tax exemptions to cover all ICT related products.

Use of Technology:

- Programs to train and induct the sector work force on ICTs.
- Mandatory use of automated work-processes.
- Realistic and affordable eGovernment initiatives.

Jobs (ICT Professional):

- Specialised training of local professional on emerging technologies.
- Strategies to attract back local talent that fled to the diaspora.
- Strategies to attract international ICT jobs along the model of Indian call centres.
- Programs to jump-start the creation of local ICT content without which consumers are forced to consume 'foreign' content leading to capital flight.

Innovation and Ownership:

- Policies to protect, recognise and reward innovations.
- Enactment of e-legislation.

8. References

- [1] Ford, D. L & Whaley G.L, *The Digital Divide and Managing Workforce Diversity: A Commentary*, UK: Blackwell Publishers (2003)
- [2] Ford, D. L & Whaley G.L, *The Digital Divide and Managing Workforce Diversity: A Commentary*, UK: Blackwell Publishers (2003)
- [3] Noguera F.M, *Bridging the Digital Divide and Creating Digital Multipliers*, The Daily News (Harare), August 9th 2003.