Africa digital forum

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Ladies and gentlemen,

It is a pleasure for me to speak to the Africa Digital Forum and thank the organizers for seeking me out

The theme “the digital challenge, Africa’s opportunity under AfCFTA” is of interest to our Internet technical community who believe a good stable,

secure internet is a precondition to successful AfCFTA. The Internet technical institutions called Af*, founded over the decades, Afrinic, Afnog, aftld, Afren, Africacert, Afregistrar and DotAfrica (AUC sponsored TLD) would be technical infrastructure for regional trade

I'll make some general remarks and respond to the invitation by sharing experiences, comment on how far we've come and suggest where we should be going

I commend Mr Ambrose Yennah, for insisting that Africa's father of Internet, ought to be heard at this forum

When we ask who brought cocoa first to Ghana, everyone knows Tetteh Quarshie and cocoa has powered our economy for centuries.

But when we ask who brought Internet to Ghana, we seem to not know... but the Internet will power the economy for centuries to come so we probably should know who did

Fortunately, the larger regional and global communities knew who accomplished these and described the speaker as Africa's father of the Internet.

It's awkward talking about the past when we are engrossed in the future. I sense people want to know more about the beginning of technology in Ghana so I oblige

While an undergraduate in USA, the late prof FKA Allotey was establishing computer science

department at KNUST. Profs talent search resulted in scholarship for graduate study in computer science, a gesture from someone who I did not know at the time. That experience resulted in the first PhD in computer science from sub sahara Africa in 1977

A return in 1979 to start seeding the computer science department at UCC was ill fated and went back to USA in 1982. UCC had just acquired an ICL 1901 British made computer to be installed, the reason for my

recruitment, and I had a personal PDP-11/03 from my employer DEC

The technology divide was unimaginable but we used the two machines to do several things for registrar and accounts and also taught computer science through the mathematics department, using Algol and Cobol programming languages

After a decade away, I executed a planned return during 1988-1992 which resulted in

establishment of Network Computer Systems (NCS), a DEC distributor and systems integration company, that pioneered Internet in Ghana in 1993 with 9.6kbps international bandwidth at exorbitant cost of $7,500 to GT and £5,000 to BT monthly. We did this with only Ghanaian engineers and determination of self reliance in technology. This marked the beginning of the techno liberation struggle to free Africa of foreign technology domination. This spirit swept through the continent and by

2000 the last country Somalia had connectivity at its capital city. We insisted Africa must be part of supply and not only consume technology. That struggle still continues…work in progress

NCS powered most of leading organizations and professionals in the country making Ghana one of first African countries to have connectivity and name services locally and assisted other countries including with transit. At 2003 there were over 10,000 users and a network

spanning 3 regional capitals. Access was by dialup modems and corporate radio links while terrestrial infrastructure was based on radio and satellites

Just a decade later NCS, the homegrown research lab, is shut down under mysterious circumstances in November 2003 and a company with annual receipts of $2.3m at 2003 went into liquidation scattering 87 staff trained over the decade.

The 87 staff, would soon become leaders in the rise of the

telcos in Internet provision thus filling the vacuum left by the demise of NCS

We decided to form a new company, GDC, in 2007, to be an ICANN accredited registrar, to provide new global technical DNS services based in Accra

We certainly have come a long way since the ‘70s with only a handful of computers in use and a tiny analog telephone network. We went through a phase in 80s building networked enterprise systems and in the 90s with

arrival of PCs the conditions were ripe for Internet and we moved on to cyber space in 93 and been growing since

Here are suggestions of direction we should be going and include things governments would have to do to sustain continued development of this area. I'll maintain a narrow focus on needs of the technical community

The weak support for cs/it departments at tertiary institutions is problematic as

these are expected to be driving technology advances. These departments produce majority of workforce yet don’t have sufficient teaching materials in my opinion and have minimal research capacities. These departments collectively are producing thousands of graduates a year and must be good for a digital economy. This requires intentional investment

The parks, centers etc we are fond of, which we understand makes good showcases, work only when have strong cs/it

educational system to support; the parks and centers would be empty without

Professionals eg lawyers, doctors are trained hence I wonder why one would imagine computer professionals without formal training. We ought not confuse skills with education as skill can make you do things with tools but with education we make new tools

In a thought experiment, we may wonder how many among us know how to write programs?

and how many still do? We must at all times have enough of critical mass of them among us. Sadly, many trained in this area also retire early and are no longer in engineering, maybe have become managers or business men. Computer science is a science of programming. It's not a thing for kids or the faint hearted. I write programs routinely at 72 just like any other professionals at my age practicing their trade

The acronym ICT itself dilutes the technology component

unfairly. It mixes two categories of users of technology ie “media” and “telecommunications” with a new yet to self evolve the “technology”. We end up with fluff without the main piece, technology, having critical mass

Meanwhile both media and telecommunications are well established with professional bodies and chambers. How come there is no professional body for technology which could be hindrance to workforce development. There is no industry association either hence

inherent high risk in assessing merit of contracted companies or professionals

Procurement vs development tension exists as one can procure technology from global sources to use in provision of services and one can also invest in capacity to develop the said technology locally. Procurement create users quickly but development creates suppliers over long time. What mix of dependence and self reliance to plan is a challenge. We also have to balance short term and

long term development needs of the digital economy. What proportion of public procurement targets local technology providers. I favor more local development, self reliance and being suppliers

In the ‘90s there were hundreds of local isps today Internet is provided by a handful of telecommunications companies. What did we do to create this monopoly style market consolidation in hands of few multinational companies. Was this a result of prioritizing policy

for raising funds that gave the sector away? I think so and stand by building technical capacities and self development

The AfCFTA powered regional economy will depend on the Internet, which we don't have enough of yet, hence any impedance whether taxes, shutdown or tampering would be costly

AfCFTA will do well when there are lots of company and government websites engaged in online commerce. These

commerce powered websites require domain names, webhosting, eCommerce and payments tools

I recently read up about AfCFTA and that Africa loses billions from intra regional trading in foreign currency, the $. One forward looking proposal is to consider taking advantage of advances in crypto currencies and blockchain and issue an AU coin to fund Africa agenda 2063 and we trade only in AU coin amongst ourselves while the AU coin may

be traded on exchanges for value

Thank you for your attention