

AMELIORATING BANDWIDTH & OTHER ICT COSTS

A PRESENTATION BY:

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TO THE

**ASSOCIATION OF VICE-CHANCELLORS OF NIGERIAN
UNIVERSITIES (AVCNU)**

WORKSHOP ON

**STRATEGIES FOR ICT DEVELOPMENT & ACCESS TO MORE
AFFORDABLE BANDWIDTH FOR UNIVERSITIES, RESEARCH &
HIGHER EDUCATIONAL INSTITUTIONS IN NIGERIA**

IN COLLABORATION WITH THE

JOHN D. & CATHERINE T. MACARTHUR FOUNDATION

ABUJA

26 FEBRUARY 2008

EXISTING TERMINOLOGY

 **Lack of common terminology hampers financial planning & tracking**

 **Traditional terms for budgeting & finance classification are limited. They tend to isolate expenditures into specific areas:**

 **physical plant**

 **Infrastructure: electrical systems, plumbing & sewage, heating, telephones**

 **maintenance**

 **administration**

 **teaching & research**

 **student services**

SUGGESTED NOMENCLATURE

 **Not long ago HEI's invested in:**

 **instructional television & satellite hook-ups**

== educational technology

 **Internet** == wired campuses

 **wireless technology** ==???

 **We need nomenclature that can adapt to the rapid technology changes but able to create a framework for program & financial planning**

 **building infrastructure**

 **systems infrastructure**

 **personnel infrastructure**

BUILDING INFRASTRUCTURE

- **Physical items or pathways for ICT support**
 - **Conduits/ risers/ raceways for ICT & network cabling**
 - **Actual cables & electrical wiring for ICTs**
 - **Electrical power & related building features like electric power outlets**

SYSTEMS INFRASTRUCTURE

- **Connects technology components**
 - **Networking software that links ICTs in a network**
 - **Networking hardware like servers, modems, routers, switches & hubs.**
 - **Anything that links data, voice, video & multimedia systems**
 - **Wireless technology**
- **Data systems: computers connected to peripheral devices like printers, networks including Internet & databases such as libraires**
- **Voice systems: multi-way include two-way voice communication & messaging**
- **Video & multimedia systems**

PERSONNEL INFRASTRUCTURE

- **Human resources necessary for the efficient operation of the overall technology infrastructure**
 - **network management**
 - **training & technical assistance**
 - **course content development**
 - **administrative support**
 - **Staff & student support services related to technology-aided instruction**
- **Capacity building related to the operation of the overall technology infrastructure**
 - **training & ongoing course development as technology infrastructure is constantly redefined**
 - **ongoing education are essential elements**

HAVE A PLAN

 **Incorporate technology planning into overall HEI financial planning**

 **Academic & Administrative planning must be coordinated & ICT needs optimised**

 **Match priorities with funding options**

 **Planning often fails to address core institutional policy issues related to technology**

 **Do not assume that because you planned for something that funding will follow**

DEVELOP A PLAN

- 📖 **Identify strategic priorities for the institutions or “owners” & build on existing strengths**
 - 📖 **Articulate the role of technology in achieving these priorities**
 - 📖 **Estimate the costs of the initiatives**
 - 📖 **Develop revenue strategies to fund these initiatives**
- 📖 **Financial process must be driven by the HEI’s overall vision of technology’s role in serving the institution’s mission & NOT the need for a specific technology**

LEVERAGE PLANS

 **Need for improved coordination of provision of capacities such as VSAT installations by ETF, PTDF & MDG, to promote synergies – can be used to guide other ICT support initiatives**








 **Institutional Strategic Plan**

 **ICT Master Plan**







 **ICT Usage Policies**

 **HEI's need to quickly learn & master the techniques on how to build symbiotic synergistic relationships & seek win-win propositions**

PLANNING ERRORS

-  **Failure to establish effective asset-management programs for technology**
-  **Failure to adopt a life-cycle approach to technology budgeting in which various types of technology costs are organized & annualized into a portfolio of longer-term costs**
-  **Failure to segment long-term costs into groups that can be matched to appropriate funding streams**
 -  **student fees**
 -  **operating budget lines**
 -  **annuities from technology endowments**
-  **Failure to develop reliable methods to measure the HEI return on investments in technology**

AMORTISE COSTS

-  **Make installed capacities carry out additional but related activities**
 -  **IP based PABX – cost FREE voice & data Communications between Institutions that use similar standards**
 -  **Facilitate inter-library loan mechanism between institutions**
 -  **Contribute to the establishment of a National Research Education Network (NREN)**
 -  **Campus ISP and/ or Cybercafés**
-  **HEI leverage on exiting fibre networks to pass traffic free between institutions & pay for traffic external traffic**

 Galaxybackbone PLC

 Significant reduction in equipment cost == 80%?

 Modest reduction in recurrent cost == 20%?

 Collaborate with communication backbone owner like Globacom, MTN, NNPC, NRC, NEPA, Shell, SKANNET

 Link the 40+ HEI's & Research Institutes in Zaria








 Use 1 VSAT dish

 Tap into the Globacom fibre optic or MTN network that passes through the town

 The costs can be amortised over many users & HEI's thus dropping the cost per user

 Can a similar initiative be done @ your HEI?

FUNDING SOURCES

-  **Debt financing (bonds, certificates of participation, revenue anticipation notes).**
-  **Vendor arrangements (discounts, donated, services or equipment, leasing arrangements, service contracts, performance contracting).**
-  **Leasing arrangements == Many institutions prefer to lease rather than purchase technology hardware because such equipment is often obsolete after three years**
-  **Revolving funds (seed money repaid either through revenue or budgetary savings)**
-  **User fees (special technology fees, tuition increases)**
-  **E-commerce (revenue-generating activities)**
-  **Creation of for-profit subsidiaries**

 **NOTE:** University of Oregon, USA with 40,000 students & staff has 2 Internet linkage points for redundancy purposes

 **Fibre == Fibre generally kills VSAT**

 **VSAT (back-up) == 1 good VSAT per campus cluster**






 **Bandwidth management**

 **Equipment will control bandwidth distribution between network clusters**

 **Bandwidth Cache**

 **Pooling with clustered institutions**





LEVERAGE CUSTOMER BASE

-  **Banks provide FREE “smart” student Identification tags/ cards & data networks with the requisite bandwidth which hold the HEI staff & student biometrics & financial information enabling them to use such cards to pay HEI fees & related bills including VL access thus minimising cash income activities & thus reducing the opportunities for fraudulent activities related to cash payments. Banks get:**
 -  **Captive market for bank with modest investment - The HEI, its staff & students maintain accounts with the financial institution thus providing significant income from commissions & turnover**
 -  **Commission on each transaction**
 -  **Broaden customer base - The financial institution will have captured future well educated income earners**
-  **Ideal: An HEI system-wide solution package with a consortium of financial institutions**

-  **Technology acquisition**
-  **Subscriptions to connectivity/
bandwidth**
-  **Pooling access & related services**
-  **Sharing of "good practices"**
-  **Nurturing & enhancing existing
competencies**
 -  **Pooling of human/ staff resources**
-  **Enhancing capacity building & shared
learning**
-  **Change management activities that
enhance staff moral**

 Standardising, monitoring & evaluation activities** requisite baseline studies**** setting & enforcing standards**** tracking access & usage of electronic resources**** nomenclature**** Encouraging local connectivity & software solutions**** Sharing of a multi-site databases which could be used to store & access various teacher & educational material**

PUBLIC PRIVATE PARTNERSHIPS (PPP)

-  **The campus branch of a Bank & providing the excess bandwidth to the Virtual Library OR the VL servers updating using the banks bandwidth at night & during other non-office hours**
-  **Partner with ISP and/ or Cybercafés**
-  **Leverage on firms Corporate Social Responsibility (CSR) they want Corporate Image Enhancement and/ or Business Development - what is your HEI CSR to the community in which you operate?**
-  **Task & listen to other suggestions by suppliers/ vendors**

 **User based pay-as-you use:**

 **Scratch card**

 **e-payment system**

 **Debit "ID" card**

 **Increasing the annual fees on the students**

 **Library fee**

 **Internet Fee**

 **Other organizational & budgetary techniques:**

 **consortia,**

 **partnerships &**

 **funding through internal recharge systems**

**Thank you,
for your
attention**

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