ICT and Business in Africa: What is the Next Big Thing?

Washington D.C. USA

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AGENDA

• History
• The Rationale
• Economics of the Internet
• Africa and the Internet
• Services & Contents Infrastructures
• Policy, Investment, PPP, DPPP
• Africa Challenges and Changes
• What NEXT?
Questions

• What are the variables for empowering the African Continent in the Internet?

• How can we make the African Population (literate and illiterate) take advantage of the Internet as a global market place?

• How can the Creative Industry in Africa take advantage of the Global Internet Market Place to create welfare, to generate revenues and become one of the major job creation mechanism?
Market Penetration & Literacy

• Is Mobile Market Penetration enough to harness the New Economy in Africa?
• Is illiteracy a barrier to ICT penetration?
• Can ICT be benefit to illiterated People?
• How can ICT be relevant and profitable to people who don’t care about it?
• Market Transformation and Not People Transformation !?!

People Change, Market Change or Technology Change?
Questions

• How can Actors help built a strong awareness process to bring Africa at a Peering level with the other major Continents (Europa, USA, Asia), and save billions of USD for Internet Connectivity, to reduce the bill for the African End user and to reduce the operational cost for Internet Service Provider and Telecoms operators?
The Internet Economy
A four layer Model

- Telecommunications Infrastructure (Layer 1)
- Names & Numbers Infrastructure (Layer 2)
- Content Economy & Intermediation (Layer 3)
- Economy of services (Layer 4)

Source NEXT
Networks pushed to the limit

- Annual backhaul capacity growth
- Need for constant modifications, upgrades and expansions
- Mixture of technologies and protocols - shift from 2G to 2.5G to 3G to 4G

Regional segmentation:

- Emerging markets - aggressive subscriber growth
  - 2G expanding (coverage), mainly basic voice
  - 55% YoY growth in Africa
  - Subscribers generate low ARPU (new customers)
- Mature markets - rolling out data, video and business services
  - Subscribers growth already slowed down
  - Most 3G already in place (ATM)
  - Beginning of 4G

3G rollout occur in phases:

- Not in every region, not in every cell site
- Generates Multiple forms of traffic
- Increase capacity, but…
  - costs become prohibitive
The missing pieces

- **Infrastructure** (Sub-Marin Optical Cable and Terrestrial Cable)
- **Internet Exchange Points** (IXP) and Content Distribution Network (CDN)
- **Security Infrastructure** (Cyber Trust, Digital Certificate, etc.)
- **E-commerce enforcement environment**, Adequate and incentive Financial environment for transactions and payments (e-Payment, Mobile Payment, Mobile Money, etc.)
ECONOMICS OF THE INTERNET

- The DNS Market
- Internet Numbers (IP, ASN, ...)
- BACKBONE: TRANSIT AND PEERING
- APPLICATIONS AND CONTENTS
- TELECOM INDUSTRY
- SOFTWARE INDUSTRY
- INNOVATION CIRCLE
- INFRASTRUCTURE – INVESTMENT

- Worldwide Trends TLD
- The GTLD Market
- THE CCTLD MARKET
- AFRICAN MARKET
- DOMAIN NAME SECOND MARKET
- SECURITY OF THE DNS
- CyberSecurity, IPR Issues
IT industry will represent by 2015, a market of over 2.500 billions Euros.
Internet Users in the World
Distribution by World Regions - 2010

- Asia: 42.0%
- Europe: 24.2%
- North America: 13.5%
- Lat Am / Caribb: 10.4%
- Africa: 5.6%
- Middle East: 3.2%
- Oceania / Australia: 1.1%

Opportunity?
### Population & Internet Distribution

#### Internet Usage Statistics

The Internet Big Picture

World Internet Users and Population Stats

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<tbody>
<tr>
<td>Africa</td>
<td>1,013,779,050</td>
<td>4,514,400</td>
<td>110,931,700</td>
<td>10.9 %</td>
<td>2,357.3 %</td>
<td>5.6 %</td>
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<tr>
<td>Asia</td>
<td>3,834,792,852</td>
<td>114,304,000</td>
<td>825,094,396</td>
<td>21.5 %</td>
<td>621.8 %</td>
<td>42.0 %</td>
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<td>Europe</td>
<td>813,319,511</td>
<td>105,096,093</td>
<td>475,069,448</td>
<td>58.4 %</td>
<td>352.0 %</td>
<td>24.2 %</td>
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<tr>
<td>Middle East</td>
<td>212,336,924</td>
<td>3,284,800</td>
<td>63,240,946</td>
<td>29.8 %</td>
<td>1,825.3 %</td>
<td>3.2 %</td>
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<tr>
<td>North America</td>
<td>344,124,450</td>
<td>108,096,800</td>
<td>266,224,500</td>
<td>77.4 %</td>
<td>146.3 %</td>
<td>13.5 %</td>
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<tr>
<td>Latin America/Caribbean</td>
<td>592,556,972</td>
<td>18,068,919</td>
<td>204,689,836</td>
<td>34.5 %</td>
<td>1,032.8 %</td>
<td>10.4 %</td>
</tr>
<tr>
<td>Oceania / Australia</td>
<td>34,700,201</td>
<td>7,620,480</td>
<td>21,263,990</td>
<td>61.3 %</td>
<td>179.0 %</td>
<td>1.1 %</td>
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<td><strong>WORLD TOTAL</strong></td>
<td><strong>6,845,609,960</strong></td>
<td><strong>360,985,492</strong></td>
<td><strong>1,966,514,816</strong></td>
<td><strong>28.7 %</strong></td>
<td><strong>444.8 %</strong></td>
<td><strong>100.0 %</strong></td>
</tr>
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World Internet Penetration Rates by Geographic Regions - 2010

- North America: 77.4%
- Oceania / Australia: 61.3%
- Europe: 58.4%
- Latin America / Caribbean: 34.5%
- Middle East: 29.8%
- Asia: 21.5%
- Africa: 10.9%
- World, Avg.: 28.7%

Look At the Potential 89% !!
Total Domain Name Registrations
Source: Zooknic, January 2011; Verisign, January 2011
KEY ISSUES AND PRIORITIES

• BACKBONE ACCESS, IXPS AND PEERING
• STABILITY AND SECURITY FUNCTIONING OF THE INTERNET
• MULTILINGUALISM AND CONTENT
• HUMAN RESOURCES AND YOUTH EMPLOYMENT
• REVENUES FOR CREATIVE INDUSTRIES
• OTHER ISSUES FOR CONSIDERATION
Economics of Backbone Connectivity Transit (and/or) the Peering

• The Global Internet Network is based on Peering And transit.

• Many African organizations (Afrispa, Afrinic, AfTLD, etc) and many international organizations (ITU, ISOC, AUC, etc.) raised the issue of the Connectivity Cost for Africa to Connect to the Internet.

• The different interconnection models have been discussed for many years without pointing out what can be done to change the dynamics of the Interconnection Cost in Africa.
Knowledge economy and knowledge-based industries

• State of the economy;
• State of ICT in the Economy and across different sectors of the Economy;
• Availability of skilled human capital with sustainable supply process;
• Role of Creativity in the Global Economy and in the African Economy;
• Enabling environment, e.g. legal and regulatory regime; and

Access to financial resources.
The Connect Africa objectives: 5 objectives  
(cf. Connect Africa Summit, Kigali, Rwanda 2007)

- **Interconnect** the African major cities to broadband ICT networks within **2012**
- **Connect African villages** to broadband ICT networks and services within **2015**
- Adopt basic regulatory measures to promote affordable broadband networks and services development, fair competition among operators, the **creation of IXPs**
- Support capacity building, the **creation of centers of excellence**, and cooperation between African universities and training centers
- Adopt a national cyberstrategy, including a **cybersecurity framework**, to develop and promote e-Services: e-governance, e-health, e-commerce, etc.

Global commitments for more than USD **55 billions**
Some Numbers from Financial Crisis

- IMF 1 100 billions dollars
- USA 787 billions dollars
- Europa 200 billions euro
- ODA (International help) 50 billions (announce more but in fact ....)
- African Connect Plan only USD 55 billions

- The Connect Africa objectives : 5 objectives (cf. Connect Africa Summit, Kigali, Rwanda 2007)
The African Creative Based Economy

- "Creative industries" can be defined as the cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs.
- One of the most active creative industry in Africa is the Music Industry.
- But very few actors in Africa take advantage of their creativity.
**DIGITAL MUSIC REVENUES (2008)**

Source: IFPI, Figures include online, mobile and subscription trade revenues, 2008

Figures are estimates. Figures rounded and expressed on a fixed exchange rate.
Digital Share

- Games: 35%
- Record Music: 20%
- Newspapers: 4%
- Films: 4%
- Magazines: 1%
Market transformation

• **Impact on the internal market**: to investigate whether new barriers, bottlenecks, competition problems knowledge based economy & creative based economy and the growth of ICT.

• **Supply-side impact**: to look at how the development of the European Information Space is impacting on business structure, size and dominance of firms.

• **Behavioural change**: analysis of the impact of use of advanced services.
the completion of a African Information Space which promotes an open, competitive and content-rich internal market for electronic communications, media and content;

• strengthening **Innovation and Investment in ICT research to promote**
• growth and jobs through a wider adoption of ICT;
• achieving an **Inclusive African Information Society that prioritizes better** public services and quality of life.
  – skills and digital literacy
  – advanced services
  – e-Commerce and trust
  – security and cyber security
Evolution or Revolution

• Mobile Currency or Mobile Money
• National and Regional Stock of Traffic
• M-Pesa, Orange Money, etc. Evolution
  – New Banking Process
  – Unique Identification Process
  – A stronger penetration
The NEXT Big Thing

• Supply Side
  – Mobile Banking
  – E-learning
  – E-commerce
  – Contact Centers! Old!!
  – Creatives Industries
  – BroadBand market
  – Entertainment
  – IT across Sectors
  – IT in Health
  – IT in Education
  – CyberSecurity

• Demand Side
  – Trust
  – Affordability
  – Easy to use
  – Easy to access
  – Understandable
  – Relevant
  – Job creation
  – Revenue Stream
  – Inclusion
  – Funds or Credit
Internet Evolution

• From 1965 to 1991: Internet = LAB
• From 1992 to 2001: Internet = Connectivity
• From 2001 to 2010: Internet = Mobile & Broadband
• From 2011 to 2020: Internet = Economy, Socio-Cultural Area, Language oriented and Cultural Sensitive!!
  – Localization
  – Multilingual
  – Multicultural
Financial Implications

• New Currencies! Minutes XOF
• Virtual Stock markets
• Virtual Companies
• Virtual Commodities
• Hosting Environments
Questions ?