From Digital Divide to Digital Unite

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Policy Issues for NRENs in SEE
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“The danger faced by all is that the gap between the frontrunners of the networking revolution and those lagging behind may grow larger and that the digital divide may reinforce patterns of growing inequality both internationally and within the countries.”

DOTForce 2001
Information and Communication Technology

- GITR states that “the use and the application of ICT remains one of the most powerful engines of growth…”
- Education and research are carried out increasingly on a global scale
- Developing countries need ICT, particularly networks, to communicate without frontiers, both locally and globally
Axioms of ICT Goals

- ICT revolution is about people
- No human being should be left behind
- Civil Society should be based on the interaction of informed individuals
Academia

- A special responsibility and role to play – as an ICT avant garde in:
  - Creation
  - Proliferation
  - Usage
  - Driving force
  - Test-bed
  - Social leveler
    - Equity
    - Fairness
What Is Digital Divide

- Digital divide – a gap that exists between individuals, households, businesses, geographical areas and countries at a different socio-economic levels concerning the opportunities to access ICTs and the Internet.

- A basic telecommunication infrastructure and its availability is an assumption.
Behind the Digital Divide

- When it occurs and why
- Reasons and symptoms
- Metrics to measure it
- Factors of relevance
- Patterns within countries and between countries
- Long term and short term effects
- Easing and resolving DD
Problems for Digital Divide

- No adequate competition in the telecommunication sector – monopolies, corruption and no transparency
- Restrictive regulations for
  - foreign investments
  - domestic focused funds
- No overall government strategy with respect to ICT
Problems of Digital Divide

- Virtual or no independent regulatory framework
- Unequal ICT access
- Weak judicial system
- No political capacity and awareness make the “deadly” cocktail of arrogance, ignorance and incompetence
What Is the World Doing

- Seven International Development Goals – Millenium goals
- UNDP, World Bank, OECD, national agencies
- Digital Opportunity Task Force created by G8 Heads of State (Okinawa Summit in July 2000)
- United Nations ICT Task Force
Donor Programmes

One per cent-goal of BNI in 2000

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Denmark</td>
<td>1.06</td>
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<tr>
<td>Netherlands</td>
<td>0.84</td>
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<tr>
<td>Sweden</td>
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<td>Norway</td>
<td>0.80</td>
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<td>Luxemburg</td>
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SEE Digital Divide

- **Objective**
  - Recent pathological behavior caused retardation on all social and economic levels
  - Very hard to identify priorities

- **Subjective**
  - Balkanization present even on a local level
  - Lack of transparency
  - Ego-centric visions
Main Issues

- Access
  - Connectivity
  - Bandwidth
  - Infrastructure
  - Information sources

- Human Resource Development
  - Administration
  - Capacity
  - Co-operation
Main Issues

- Locally
  - Content
  - Academic institutions as incubators and technology farms
  - Gender equality
- Sustainability
Low International Internet Connectivity

Little development in infrastructure

Reduced private investment

Low Demand of Internet Services

No economy of scale and lack of competition

High Connectivity Charges for ISPs

End user subject to high charges
What is Development

- Archaic view – GDP per capita
- Problems
  - Disproportional income distribution
  - Difference (Expectations, Delivered)
  - Denial of traditional values and customs
  - Creating mega-cities – concentration
- Possibly a broader concept is in order?
  - Human autonomy
  - Bread of choice and equity
  - Productivity and sustainability
Human Development Index-HDI

- Function of
  - Productivity
  - Health care
  - Education
  - Quality of life
  - Democracy and human rights

- Two views on ICT
  - Dictator – good for economy, bad for control
  - Democrat – good for democracy, bad for economic collaboration with unacceptable regimes
Civilization Delay Time

- Decreased significantly in the DC, however the same is not true for the LDC
- In the same time the gap between the DC and EC is narrowing, while the gap between the EC and LCD is widening

- Teledensity is increasing in the LDC
- Deregulation is mostly working
Knowledge economy

- Nine out of ten children will one day work in the knowledge economy – OECD
- ICT is the driving engine
  - Production dissemination and consumption of information
  - Creates jobs, although initially there might be some anomalies
- Labor force dominated by people manipulating information – knowledge
ICT Development Index

- The degree of using ICT
  - Accessibility to the Internet
  - Ratio between spending for ICT/GDP
  - e-Commerce penetration
- Case study – Sweden
  - 70 % of the population has access to the Internet
  - 80 % mobile telephones
  - 4.1 % of GDP for ICT (and 20 % on software).
## ICT Development Index

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<td>2</td>
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<td>9</td>
<td>Austria</td>
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<tr>
<td>10</td>
<td>Canada</td>
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## CPI - Corruption Perception Index/2002

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<th>ICT</th>
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<td>5</td>
<td>Singapore, Sweden</td>
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<tr>
<td>7</td>
<td>Canada, Luxemburg, Netherlands</td>
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<tr>
<td>10</td>
<td>United Kingdom</td>
<td>8.7</td>
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<tr>
<td>12</td>
<td>Norway, Switzerland</td>
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<td>16</td>
<td>Austria</td>
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</tr>
<tr>
<td>17</td>
<td>USA</td>
<td>7.7</td>
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</tbody>
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Range of the CPI from 10 (very clean) to 0 (highly corrupt)
Overcoming the Digital Divide

Policies

- Strategic coordination on the national level. Involve government, private sector and donors, identify pioneers and early adopters, and create strict control of what is going on/if possible from the outside.
- Remove all the restrictions from the telecom market – very positive effects of the EU accession process.
- Empower the regulatory authority.
Overcoming the Digital Divide

- Simple licensing procedures, balance between domestic and international prices, urban and rural prices, including incentives for the last mile and the local loop
- Create preferential environment for the ICT industry, especially software (and eliminate piracy as much as possible)
Overcoming the Digital Divide

- Capacity building
  - Create digital literacy programmes (including assessment procedures),
  - Make benefits the same as with the traditional learning
  - Strengthen the ICT competence of the civil servant sector
  - ICT curriculum development and implementation - continuous and based on performance
Overcoming the Digital Divide

- Create a national information network through integration of MIS segments on local and regional levels.
- Develop a knowledge base of best practices that will become standards and routines
- Whatever you do will help you make things transparent and also do them in a transparent manner
Paradox of Developing

- DVC depend heavily on the available knowledge, education and training.
- ICT skills are much more important in DVC, however there is a large migration from DVC to DC, which in fact is the redistribution of the capital.
- Do “have-nots” subside the “haves” in some way – “brain drain” again, but social mobility is one of the key factors for motivation and achievement.
DSV Model

- Knowledge – education and research
- Academic communities are crucial – natural and effective setting for ICT conception and know-how transfer
- Projects
  - Technical infrastructure – networks
  - ICT policies (including organization and management)
  - HRD – Graduate programmes – Sandwich system – Might prevent brain-drain
Goals and Objectives

- Induce a culture of development
- Produce a climate for change

Create a sustainable environment that eliminates the need for an external support - from assistance to co-operation and collaboration
Thank you