Examining the Opportunities and Challenges for ISPs in Developing Countries

Laura Männistö
mannisto@itu.int
International Telecommunication Union
ISP Forum, IIR
Amsterdam, 30 November 1999

Note: The views expressed in this paper are those of the author and may not necessarily reflect the opinions of the ITU or its membership. The author can be contacted at Laura.Mannisto@itu.int.

Agenda

• The Status of Internet in developing countries
• Issues of Internet regulation
• Challenges to e-commerce
Internet hosts (million) and growth rates, 1990-99

<table>
<thead>
<tr>
<th>Year</th>
<th>Hosts (m)</th>
<th>Countries connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>22</td>
<td>0.04</td>
</tr>
<tr>
<td>1991</td>
<td>35</td>
<td>0.7</td>
</tr>
<tr>
<td>1992</td>
<td>48</td>
<td>1.4</td>
</tr>
<tr>
<td>1993</td>
<td>60</td>
<td>2.3</td>
</tr>
<tr>
<td>1994</td>
<td>83</td>
<td>4.7</td>
</tr>
<tr>
<td>1995</td>
<td>129</td>
<td>9.5</td>
</tr>
<tr>
<td>1996</td>
<td>174</td>
<td>16.2</td>
</tr>
<tr>
<td>1997</td>
<td>192</td>
<td>29.9</td>
</tr>
<tr>
<td>1998</td>
<td>217</td>
<td>43.5</td>
</tr>
<tr>
<td>1999</td>
<td>226</td>
<td>56</td>
</tr>
</tbody>
</table>


Distribution of Internet hosts, July 1999

Developed:
- 94 % of hosts
- 16 % population

Developing:
- 6 % of hosts
- 84 % population

Canada & US: 65.3%
Europe: 22.4%
Australia, Japan & New Zealand: 6.4%
Other: 5.9%
Africa: 0.3%
LAC: 1.9%
Developing Asia-Pacific: 3.7%

Source: ITU 1999 “Challenges to the Network: Internet for Development”
Internet hosts, Africa, In thousands

CAGR (1994-98) = 74.7 %


Status of Internet usage in developing countries

• Who is connected?
  - Wealth
  - education
  - age
  - location
  - gender

• Problems connecting
  - Prices of net access (retail and wholesale)
  - market structure
  - infrastructure
  - content and language
Competition in ISP markets compared to other markets, 1999

- 81% of countries allow competition in Internet markets in 1999
- In more than 73% of cases there are three or more ISPs

Competition in leased lines, by region, 1999

- Despite the competition in ISP markets, prices remain high because of the lack of competition in leased line supply.
- 60% of the leased line markets remain under monopoly control

Source: ITU Trends in Telecommunication Reform: Convergence and regulation 1999
Barriers to Internet Development

- Transmission supply side
  - National level: Lack of competition in the leased line market
  - Global level: Due to concentration, the IP Backbone market remains much less competitive than the retail side

- Services restrictions: e.g. IP telephony
  - Almost 90 ITU Member States have banned call-back and may restrict IP telephony

E-commerce forecast 1998-2003
In billions (US$)

- 1998: $43b
- 2003: $1,300b
- 2003: $7.8b
- 2003: $108b

Source: Forrester Research, Inc. 1999
Obstacles to e-commerce in the USA and Europe

- 31% Privacy concerns
- 24% Censorship
- 17% Navigation difficulties
- 9% Taxes
- 8% Other


Obstacles to e-commerce in a developing/emerging economy

- 29% Slow speed
- 29% PSTN prices
- 19% ISP prices
- 10% Lack of content in own language
- 10% Lack of local content

Note: Based on questionnaire responses. Source: ITU 1999 “Challenges to the Network: Internet for Development”, IFC.
Challenges to E-commerce in a developing country

- Telecom and IT Infrastructure
- E-commerce Infrastructure (e-payments, shipping etc.)
- Pricing
- Content and market size
- Awareness, education
- Human resources, know-how
- Legal System
- National and Regional Endorsement

Discussion

- What are the key opportunities and challenges for ISPs in developing countries in the areas of:
  - Policy & infrastructure
  - Electronic commerce & other value added services