Use of ICT Indicators in regulation

Capacity Building Workshop on Information Society Statistics

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Overview

Key elements of regulatory framework

Use of ICT Statistics to track broad trends

Interpreting ICT Statistics for decision making

Regulatory Statistics for decision making

Challenges

Conclusion
Key elements of Regulatory framework
Key Elements of Regulatory Framework

- General conditions of license
- Entry rules
- Security issues
- Consumer issues
- USO / Rural Connectivity
- Interconnection
- Access to scarce resources (Spectrum, Numbering, Right of Way)
- Competition issues

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# Use of ICT Statistics (Non exhaustive list)

<table>
<thead>
<tr>
<th>Use of ICT Statistics to track broad trends</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Growth of various services</td>
</tr>
<tr>
<td></td>
<td>Affordability of services</td>
</tr>
<tr>
<td></td>
<td>Revenue streams</td>
</tr>
<tr>
<td></td>
<td>Availability of services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interpreting ICT Statistics for decision making</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Performance Monitoring / QoS</td>
</tr>
<tr>
<td></td>
<td>Tariffs</td>
</tr>
<tr>
<td></td>
<td>Universal Service / Coverage</td>
</tr>
<tr>
<td></td>
<td>Cost Data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulatory Statistics for decision making</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Institutional Trends</td>
</tr>
<tr>
<td></td>
<td>Market entry rules</td>
</tr>
<tr>
<td></td>
<td>Regulating new services</td>
</tr>
<tr>
<td></td>
<td>Interconnection</td>
</tr>
</tbody>
</table>
Use of ICT Statistics to track broad trends
ICT Growth Trend [1]

Growth in fixed lines, mobile & Internet, in billions, 1995-2006

Source: ITU World Telecommunication/ICT Indicators Database
ICT Growth Trend [2]

Total broadband subscribers, worldwide, millions

- Mobile broadband
- Fixed broadband

Note: “Broadband” in this context means networks offering capacity equal to or greater than 256 kbit/s in one or both directions. For mobile services, this includes W-CDMA, CDMA 1x EV-DO and CDMA 1x EV-DV. For fixed-line broadband it includes DSL, cable modems, metro ethernet, fixed wireless access, fibre to the home, etc. (see Technical notes).

ICT Growth Trend [3]

Worldwide VoIP Subscribers

How affordable are services?

### Mobile

- **Africa**: 77.2%
- **Americas**: 12.5%
- **Asia-Pacific**: 16.2%
- **Europe**: 6.3%
- **World**: 30.0%

**Note** (left chart): Mobile cellular tariffs: 100 minutes of use includes the tariff components of 50 minutes of local peak time calling and 50 minutes of local off-peak calling. The connection charge is not taken into account, except where this is bundled into the cost of an account. A percentage of per capita income is computed by dividing the 100 minutes of use by the Gross National Income (GNI) of the country (World Bank Atlas method, current USD).

### Broadband

- **Africa**: 74.5%
- **Americas**: 5.8%
- **Asia-Pacific**: 88%
- **Europe**: 2.15%
- **World**: 19.4%

**Note** (right chart): ITU’s methodology for evaluating broadband access assesses the cost of a monthly subscription to broadband on the basis of a representative sample of offers for each country with commercial broadband available in USD per 100 kbit/s (to take into account packages at different speeds). Where charged by time, the cost of 100 hours of Internet access is evaluated. Where charged by data download, the equivalent of 1 Gbit of data per month is assessed.

Distribution of revenue

Source: ITU World Telecommunication Indicators Database
Availability of Services

- Waiting list
  - Number
  - Waiting time (in years)
- Percentage population covered by mobile telephony

Source: ITU World Telecommunication Regulatory Database
Interpreting ICT Statistics for decision making

Implementation of regulatory initiatives (Examples)
Impact of competition on tariffs & subscriber growth in India

Mobile growth and effective charge per minute

Steps taken for increasing growth

- NTP '99
- 3rd & 4th cellular operator introduced
- CPP introduced
- Lowering of ADC from 30% to 10% of sector revenue
Regulators specify QoS indicators and benchmarks
These benchmarks are reported periodically by service providers
Regulatory compliance monitored

Coverage & Universal Service Indicators

• Coverage obligated in licenses
  – No. of villages / islands to be covered
  – No. of districts covered
  – Percentage of population covered

• Availability of Services
  – Number of towns / cities having broadband services
  – Number of villages / rural areas having payphones
Use of interconnection rates for benchmarking

Often regulators use benchmarking to fix the interconnection rates in the country as use of cost models to do the same is constrained by

- High cost of modeling
- Absence of data
- Lack of time
Regulatory Statistics for decision making

Benchmarking & best practices (Examples)
Examples of Converged and Multi-Sector Regulators

- Converged Regulators: Australia, Austria, India, Malaysia
- Multi-sector Regulators: Costa Rica, Gambia, Germany

Source: ITU World Telecommunication Regulatory Database.
Institutional Trends [2]: Who monitors and sets the Quality of Service?

Source: ITU World Telecommunication Regulatory Database
Spam Regulation

Source: ITU World Telecommunication Regulatory Database
Market entry: Is introducing competition a best practice?

- Competition is authorized in more than 60% of the countries in Basic and leased line services
- Competition is authorized in more than 80% of the countries in Broadband and Mobile services

Source: ITU World Telecommunication Regulatory Database.
## Market entry: Deciding on market rules

### Table 4.4: Licence Fees for 2G and Combined 2G/3G Licences

*Selected countries*

<table>
<thead>
<tr>
<th>Country</th>
<th>Population</th>
<th>Licensing methodology</th>
<th>Initial licence fee (USD) per licence</th>
<th>Number of licences offered</th>
<th>Type of licence awarded</th>
<th>Initial duration of licence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>31.3 million</td>
<td>Auction</td>
<td>421 million</td>
<td>1</td>
<td>3rd GSM</td>
<td>15 years</td>
</tr>
<tr>
<td>Iran</td>
<td>65.5 million</td>
<td>Beauty contest</td>
<td>Not published</td>
<td>1</td>
<td>2nd GSM</td>
<td>15 years</td>
</tr>
<tr>
<td>Jordan</td>
<td>5.3 million</td>
<td>Beauty contest (fixed fee)</td>
<td>6.6 million</td>
<td>1</td>
<td>3rd mobile(^1)</td>
<td>15 years</td>
</tr>
<tr>
<td>Oman</td>
<td>2.8 million</td>
<td>Beauty contest with fee component</td>
<td>62.4 million</td>
<td>1</td>
<td>2nd mobile(^1)</td>
<td>15 years</td>
</tr>
<tr>
<td>Pakistan</td>
<td>159.2 million</td>
<td>Auction</td>
<td>291 million</td>
<td>2</td>
<td>2nd and 3rd GSM</td>
<td>15 years</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>23.1 million</td>
<td>Beauty contest</td>
<td>3.25 billion</td>
<td>1</td>
<td>GSM</td>
<td>25 years</td>
</tr>
</tbody>
</table>

*Source:* Sources: ITU World Telecommunication Regulatory Database; various regulator websites; Cellular News; press reports; EMC database.

- **International experiences and best practices often used by regulators to set market rules**
New technologies [regulatory practices]

Challenges

• Variation in regulatory requirements pose challenge for data agencies

• Availability of data through commercial agencies often unaffordable for developing countries

• Variation in measurement procedure and periods at local level

• Variation in local scenario pose difficulties in benchmarking using regulatory data
# Conclusion

- ICT Statistics is a very important tool for regulatory decision making.
- Key use of ICT statistics by Regulators in:
  - Broad industry trend analysis
  - Laying down and monitoring compliance of Regulations
  - International Benchmarking and Best practices
- Some statistics are collected and used at national level while others require international collaboration.
- UN Agencies have the responsibility to make available ICT Statistics for regulatory use at affordable price.
- Key challenges necessitate consistency in collection and dissemination.
Module 1: Regulating the Telecommunications Sector: Overview

Telecommunications growth and innovation, Telecommunications and economic development, rationales for regulation, Principles for effective regulation, Key success factors and risk of failure, Institutional responsibilities.

Module 2: Competition and Price Regulation

Fair competition, Interconnection and access, Prices, Benchmark price regulation, Data requirements, Effective price regulation.

Module 3: Authorization of Telecommunications Services


Module 4: Universal Access

Principles and basic concepts, Market shortfalls and development gaps, Roles of the government and the private sector, Scope of support beyond the market, Principles of cost-effective support, Funding sources and mechanisms.

Availability: January 2008

Module 5: Radio Spectrum Management

Current trends, Technical aspects, Scope of spectrum use and issues, International administrative framework, National institutional arrangements, Authorizing spectrum use and assigning frequency bands to users and technologies, Stakeholders, Spectrum Pricing, Monitoring and enforcement, Capacity building for regulators

Executive Summary | Table of Contents | Availability: Released
Six degrees of sharing: Innovative infrastructure sharing and open access strategies to promote affordable access for all

Thank You