Presentations

Country overviews of telecommunication statistics collection and dissemination

- Telecommunications in Finland - A statistical overview
  Mr. M. Åkermarck, Ministry of Transport and Communications, Finland

- Overview of Norway telecommunication statistics
  Mr. O. Hoel, Norwegian Posts and Telecommunication Authority, Norway

- Telecommunication statistics in a competitive environment.
  Ms. D. Mozes, Industry Canada and Mr. H. McCarrel, Statistics Canada

- State of telecommunications statitiscs collection and dissemination in BTC
  Mr. S. Mokomane, Botswana Telecommunications Corporation

- Socatel - Basic data
  Mr. A. Yangana, Socatel, Central African Republic

INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION DEVELOPMENT BUREAU

INFORMATION SYSTEMS UNIT

Document WTIM99/9-E
12 March 1999
Original: English

2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)

SOURCE: MR. MIKAEL ÄKERMARCK, MINISTRY OF TRANSPORT AND COMMUNICATIONS, FINLAND

TITLE: TELECOMMUNICATIONS IN FINLAND – A STATISTICAL OVERVIEW

_____

Helsinki, March 29, 1999

TELECOMMUNICATIONS IN FINLAND - A STATISTICAL OVERVIEW

Finland as a telecommunications country

There has always been a multioperator environment in Finland and the operators have been and still are private, communal and state-owned. This meant from the very beginning that every operator handled telephony in its own licenced concession area. Anyway, since 1985 telecommunications operations have been opened up gradually to competition. The competition began from infrastructure and it was later enlargened to services by freeing some parts totally from licenses. In 1994 the telecommunications market was fully liberalised and every segment of the telecommunications market has since been subject to competition.

The users of the telecommunications services have been the winners in the liberalisation prosess of the market; they are no longer dependent on monopoly supply, the number of services have been growing and the prices have gone down. Even operators have benefited of the situation because the volumes have increased.

The Finns are advanced users of telecommunications services. In international comparisons Finland is among the leading countries within the OECD, no matter which indicators are used for measuring the use of services. This is true especially as to the use of mobile communications and Internet services. The popularity of the mobile phones is clearly evidenced by the fact that the growth of the total subscription density is entirely a result of the increased demand for mobile phone subscriptions. Finland has the highest mobile phone density (mobile phones per capita) in the world. In the beginning of January 1999 there were 57 mobile phone subscriptions per 100 inhabitants. Finland is also ranked first as to the use of Internet. At the end of 1998, there were about 100 hosts connected to Internet per 1000 inhabitants.

One reason for the extensive use of telecommunications services might be low rates. In international comparisons Finland is one among the five cheapest countries as regards to the rates of telecommunications services. Especially the rates of the mobile phones and the data transmission services are among the lowest in the world. Local call prices are the cheapest in the EU countries. The rates of data transmission are 49 % and the rates of mobile communications are about 72 % of the average level of the OECD countries. Long-distance and international call prices are below the average level of the OECD countries.

Finnish telecommunications services are not only cheap, but also of high quality. Delivery time for a subscription is short and telecommunications networks are reliable. According to the studies of the Ministry of Transport and Communications the customers are satisfied with the service level.

Advanced state of development in telecommunications is also evidenced by adoption of new technology. For example, Finland was among the first countries to introduce GSM and ATM networks. And at the end of March 1999 Finland was the world's number one by granting four competing licences to UMTS operations.

Main operators

According to the Telecommunications Market Act, telecommunications operators are divided into network operators and service providers. Network operators provide network services by constructing and/or maintaining either fixed or mobile communications networks. Only those operators that provide mobile communications network need a licence for their activities. The licences are granted by the Ministry of Transport and Communications. As a general rule, the provision of telecommunications is subject to a telecommunications notif ication to the Ministry.

Finnish telecommunications markets are dominated by the following three consortiums: state-owned Sonera Ltd (former Telecom Finland Ltd), Finnet Group, which consists of regional telephone companies with several subsidiaries and affiliated companies and T elia Finland Ltd which is owned by Swedish telecommunications operator Telia Ltd. Other network operators in Finnish markets are e.g. Global One Communications Ltd, Facilicom Finland Ltd and RSL COM Finland Ltd which provide network and other services to their contracting customers. In addition there are telecommunications operators which provide telecommunications networks and services to limited user groups. One such operator is Railtelia Ltd.

Telecommunications service operators provide telecommunications services (like teleph one and value added services) in telecommunications networks. Network operators provide networks to be used for providing telecommunications services. These companies also provide serv ices.

Statistical activities in Finland

The Ministry of Transport and Communications is the central authority in the sector of providing telecommunications statistics. As a supervisory and policy making body the Ministry have a wide experience and knowledge in the field of telecommunications. Since 1989 the Ministry of Transport and Communications has published a statistical yearbook which covers the situation of telecommunications in Finland. The yearbook called Telecommunic ations Statistics is prepared and devoleped by a working group which has members from the three main operator groups (Sonera, Finnet Group and Telia Finland). Statistics Finland is working together with the group as a consultant.

The book includes comprehensive statistical data of telecommunications in Finland. In the publication you can find statistical data of the whole telecommunications sector:

- telephone networks
- quality of services
- telecommunications operators
- Internet
- telecommunications charges
- financial figures
- impact of the telecommunications sector on the national economy
- production, import and export of telecommunications equipment
- international telecommunications comparisons

Besides the Telecommunications Statistics, the Ministry of Transport and Communications also produce other statistical information of telecommunications to fullfill its obligation as a

regulatory body. According to the Telecommunications Market Act the Ministry has the right to obtain necessary information from telecommunications operators for the performance of their duties pr ovided in the Act.

Once a year the Ministry publishes a publication called *Price level of the Telecommunications Charges in Finland.* The subject of the research is the charges of telecommunications op erations in the general telecommunications and mobile communications networks. Time series of the prices are also shown in the publication.

Every second year the Ministry makes a comprehensive survey on *Quality of Teleservices.* The private and business customers have a possibility to give their opinions concerning the telecommunications services and operators.

Further information

http://www.vn.fi/lm/telecom.htm

and the websites of the operator groups

The writer of the review, researcher Mikael Åkermarck, is working in the Telecommunications Unit in the Communications Administration Department of the Ministry of Transport and Communications.

The Telecommunications liberalisation process in Finland since 1987

1987

- Telecommunications Act
- Administration of telecommunications was transferred to the Ministry of Transport and Communications

1988

- competition in corporate networks and data transmission was partially liberalised
- the new Radio Act

1990

- the special rights of the National Board of Post and Telecommunications were abolished
- free competition in data networks and GSM-networks

1990-1991

- licences were granted to regional radio telecommunications networks
- corporate networks became subject to free competition

1992

- switched data transmission was exempted from licences
- competitive licences to long-distance and local telecommunications

1993

- restricted competition in long-distance and international telecommunications

1994

- local, long-distance and international telecommunications became subject to free competition
- the first licences to service operators

1995

- competing licences to DCS-networks

1996

- the amendment to the Telecommunications Act

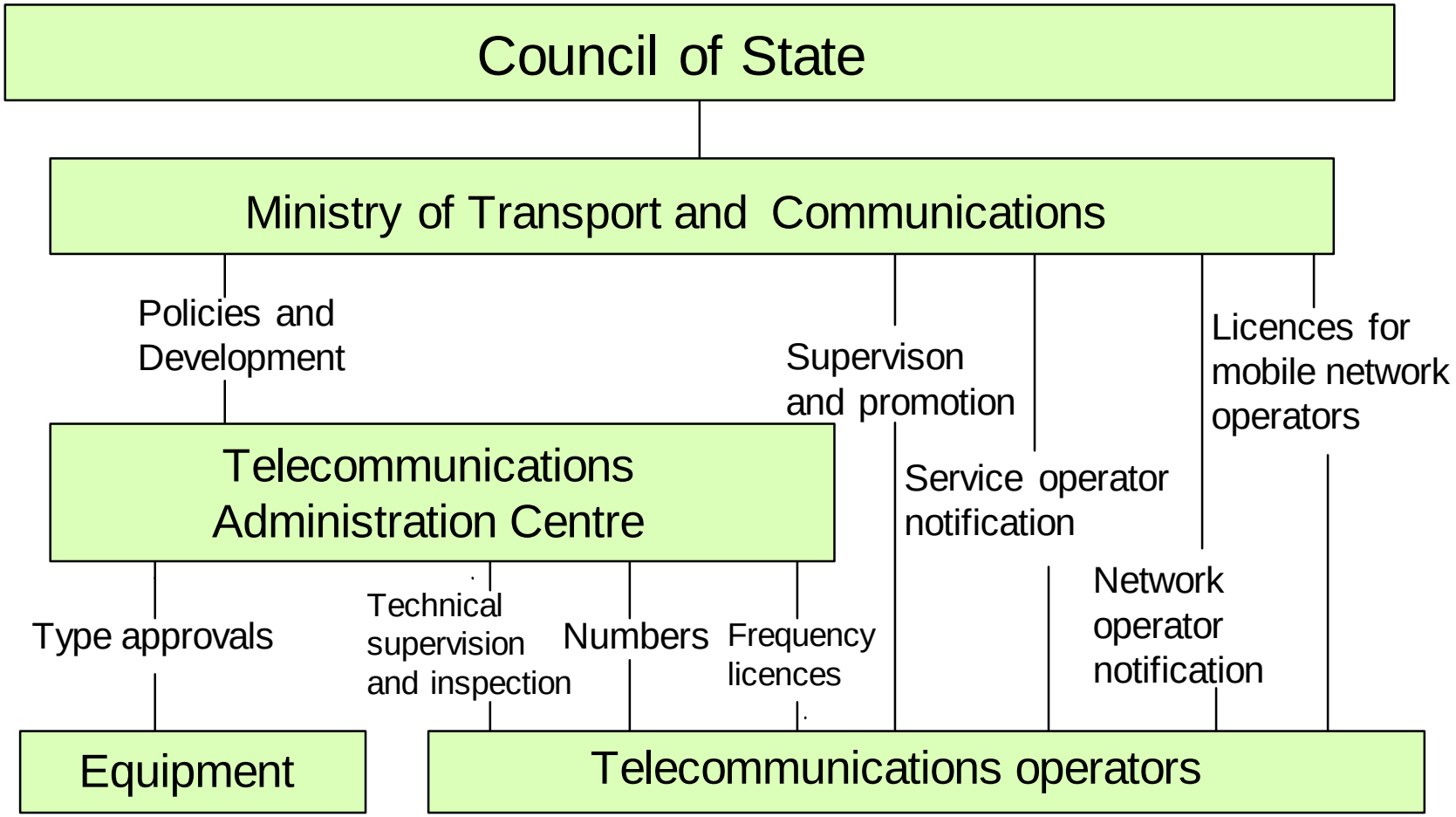
1997

- the Telecommunications Act was repealed by the Telecommunications Market Act
- The Telecommunications Market Act designated some operators as companies with significant market power

1998

- minor forms of mobile telecommunications were exempted from licence
- transmission of international telecommunications to Finland was mainly exempted from notification duty

Structure of the telecommunications administration in Finland



TELECOMMUNICATIONS OPERATORS

NETWORK OPERATORS

- Provide network for telecommunications services
- Need a licence for mobile communications networks, but are required only to notify the authorities of other network operations
- The most significant operators:
  - Sonera Ltd
  - Finnet Group
  - Telia Finland Ltd

SERVICE OPERATORS

- Provide telecommunications services in telecommunications networks
- Operation is subject to a notification
- Most important operators in addition to Sonera, Finnet Group and Telia:
  - Global One Communications Ltd
  - Teleykkönen Ltd
  - RSL COM Finland Ltd

Content of the publication Telecommunications Statistics 1998:

Statistical data collected by the Ministry of Transport and Communications

(To fullfill the duties as a regulatory body)

- Telephone charges in Finland
- Quality of services
- Financial data
- Others

Co-operation with international organisations

ITU: - World Telecommunications Development report
- others

OECD: - Communications Outlook
- others

EUROSTAT: - Communications Services
- others

EU: - many questionnaires

(And many other organisations all over the world.)

Number of telephone subscriber lines and personnel of TCs 31.12.1997

Telecommunications area	Telephone company	Subscriber lines	Personnel [1)]
Uusimaa	Helsingin Puhelin Oyj	750 343	3 814
	Karis Telefon Ab	6 111	26
	Lohjan Puhelin Oy	22 185	58
	Loviisan Puhelinosuuskunta	6 033	22
	Riihimäen Puhelin Oy	19 783	53
Turku and Pori	Eurajoen Teleosuuskunta	2 652	8
	Huittisten Puhelin Oy	4 736	22
	Härkätien Puhelin Oy	3 531	11
	Kankaanpään Puhelin Oy	6 079	21
	Kemiön Puhelinosakeyhtiö	3 653	11
	Laitilan Puhelinosuuskunta	4 497	17
	Loimaan Seudun Puhelin Oy	18 700	66
	Lännen Puhelin Oy	74 859	248
	Pargas Telefon Ab	6 753	7
	Porin Puhelin Oy	38 264	137
	Salon Seudun Puhelin Oy	30 832	107
	Turun Puhelin Oy	118 082	530
	Turun Seudun Puhelin Oy	13 840	42
	Vakka-Suomen Puhelin Oy	9 953	46
Häme	Etelä-Satakunnan Puhelin Oy	10 986	44
	Forssan Seudun Puhelin Oy	16 182	67
	Hämeen Puhelin Oy	42 542	127
	Ikaalisten-Parkanon Puhelin Oy	8 929	31
	Keikyän Puhelinosuuskunta	1 422	5
	Pohjois-Hämeen Puhelin Oy	14 642	56
	Päijät-Hämeen Puhelinyhdistys	104 136	371
	Tampereen Puhelin Oyj	168 707	789
Kymi	Kymen Puhelin Oy	33 095	154
Vaasa	Alajärven Puhelinosuuskunta	3 786	14
	Jakobstadsnejdens Telefon Ab	16 787	108
	Kokkolan Puhelin Oy	18 743	83
	Vaasan Läänin Puhelin Oy	100 027	424
Oulu	Kajaanin Puhelinosuuskunta	16 130	65
	Oulun Puhelin Oy	83 776	330
	Pohjanmaan Puhelinosuuskunta	46 719	171
North Karelia	Joensuun Puhelin Oy	27 099	114
	Outokummun Puhelin Oy	4 267	10
	Puhelin Oy Telekarelia	9 836	24
Central Finland	Keski-Suomen Puhelin Oy	62 597	241
Mikkeli	Mikkelin Puhelinyhdistys	22 422	114
	Savonlinnan Puhelinyhdistys	18 136	78
Lapland	Telepohja Oy	264	4
Kuopio	Puhelinosuuskunta IPY	8 990	34
	Kuopion Puhelin Oyj	62 596	251
Åland	Mariehamns Telefon Ab	9 975	29
	Ålands Telefonandelslag	7 378	21
Total		2 061 055	9 005

1) Personnel in TCs and their subsidiaries.

Source: Telecommunications Statistics, page 22

Total profit and loss accounts of the telecommunications operators 1980-1997, FIM million

Year	Finnet/TC[1]			Sonera			Telia		
	Income	Expen.	Surplus/ deficit	Income	Expen.	Surplus/ deficit	Income	Expen.	Surplus/ deficit
1980	1 026	1 018	8	1 809	1 448	361			
1981	1 194	1 192	2	1 944	1 664	280			
1982	1 353	1 352	1	2 264	1 854	410			
1983	1 577	1 563	14	2 518	2 036	483			
1984	1 768	1 740	28	2 790	2 167	623			
1985	1 988	1 969	19	3 072	2 319	753			
1986	2 274	2 279	-5	3 215	2 442	773			
1987	2 593	2 590	3	3 528	2 744	784	14	17	-3
1988	2 938	2 935	3	3 966	3 117	849	22	23	-3
1989	3 229	3 235	-6	4 251	3 396	855	37	38	-1
1990[2]	3 465	3 458	7	4 982	4 589	393	49	49	0
1991	3 686	3 692	-6	4 958	4 650	308	71	70	1
1992	3 824	3 834	-10	5 006	4 699	307	102	122	-20
1993	3 962	3 942	20	5 188	4 629	559	141	175	-34
1994[3]	4 326	4 267	59	5 002	4 777	225	347	328	19

	Finnet Group total			Telephone companies [4]			Sonera Group			Sonera Parent Com.			Telia		
	Income	Expen.	Surplus/ deficit	Income	Expen.	Surplus/ deficit	Income	Expen.	Surplus/ deficit	Income	Expen.	Surplus/ deficit	Income	Expen.	Surplus/ deficit
1994	4 874	4 783	91	4 467	4 403	64									
1995	5 346	5 253	93	4 690	4 636	54	5 735	5 411	324	5 490	5 183	307	110	103	7
1996	6 582	6 235	347	5 194	5 072	122	6 487	5 970	517	6 303	6 001	302	139	132	7
1997	8 082	7 669	413	5 702	5 473	229	7 722	7 209	513	7 202	6 817	385	165	200	-35

1) Parent companies' figures
2) The method of accounting was changed in Sonera in 1990.
3) The method of accounting was changed in 1994.
4) See page 21.
The net revenue of Finnet Group can not be compared to the net revenue of Sonera Group.

Source: Telecommunications Statistics, page 74

INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION DEVELOPMENT BUREAU

INFORMATION SYSTEMS UNIT

Document WTIM99/15-E
12 March 1999
Original: English

2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)

SOURCE: MR. ØYSTEIN HOEL, NORWEGIAN POSTS AND TELECOMMUNICATIONS AUTHORITY

TITLE: OVERVIEW OF NORWAY TELECOMMUNICATION STATISTICS

_____

POST- OG TELETILSYNET
Norwegian Post and
Telecommunications Authority

Memo

To: **2nd World Telcommunication Indicators Meeting** Date: **24.3.1999**

Copy to: Our Ref.:

From: **Norwegian Post and Telecommunications Authority**

TELECOM STATISTICS IN NORWAY

This background document is prepared for the 2nd World Telecommunication Indicators Meeting in Geneva, 29-31 March 1999, and aims at giving an introduction to the situation in Norway regarding Telecom Statistics.

Introduction

For the years 1995-1997, the Norwegian Post and Telecommunications Authority made a publication called *Norwegian Telecom Statistics*. This publication was published both in Norwegian and English and made available on our web-site www.npt.no (under the heading "publications"). The first version for 1997 was also printed.

The statistics have primarily been based on figures received from Telenor (the incumbent). The markets for value added services, private networks, data transmission and mobile communications have already been open to competition for some years, and from 1 January 1998 public voice telephony was also liberalised in Norway. During the first year of full competition about 30 operators registered with the Norwegian Post and Telecommunications Authority in order to offer public telecommunications network, public telephony services and/or transmission capacity[1].

This implies a need of data to follow the development of competition in the telecom market. In general the difficulties concerning collecting data are increasing, and the availability of data decreasing. In other words, there is a growing need for data on the telecommunications market while data availability seems to be decreasing. However, in order to fill this gap, the Regulatory Authorities are normally given a legal basis for the collection of data necessary in order to pursue their supervisory function, and this is the situation in Norway[2].

The legal basis

Pursuant to section 2-3 of *Regulations on public telecommunications networks and public telecommunications services*, providers of access to public telecommunications networks, of public

[1] "Transmission capacity" means the same as "leased lines".
[2] In addition Statistics Norway has a responsibility for collecting and making available data from the telecom sector.

Besøksadresse/Office *address:*Revierstredet 2 Email: firmapost@npt.no
Postadresse/*Mailing address:*Postboks 447 Sentrum, N-0104 Oslo Web: http://www.npt.no
Tlf:+47 22 82 46 00. Faks:+47 22 82 46 40. Telex: 79 544 NTRA N Org.nr: NO 974 446 871

telephony services and transmission capacity shall each year inform the Norwegian Post and Telecommunications Authority of the following:

> "1. Changes in the information given upon registration in accordance with section 2-2,
> 2. the geographical market in which the provider operates and the product market in question, including:
> *For public telephony services:*
> a: the number of subscribers,
> b: the traffic volume and
> c: trading conditions.
> *For transmission capacity:*
> a: The number of lines per category of transmission capacity,
> b: capacity (bits/s) and
> c: trading conditions.
> *For interconnection:*
> a: Traffic volume and
> b: trading conditions.
>
> The Norwegian Post and Telecommunications Authority may further elaborate the scope of the information requirement and set a time-limit for annual reporting. If required by control considerations or important statistical purposes, the Norwegian Post and Telecommunications Authority may make changes in the information requirement."

In section 2-16 of the same regulations the legal basis of asking for information for statistical purposes is given:

> "Providers of access to public telecommunications networks and of public telecommunications services shall store and surrender information on public telecommunications networks and public telecommunications services for statistical purposes. The Norwegian Post and Telecommunications Authority shall further prescribe which information shall be provided, including requirements as to what definitions, calculation methods etc., shall be employed.
>
> The Norwegian Post and Telecommunications Authority may further prescribe the manner in which the information shall be provided, and may in this connection order market participants to prepare reports and statistics on the basis of the information in the first paragraph and to prepare such information in electronic form."

Consultative document

In regard to the changed conditions the existing system for collection of data on telecom services had to be revised. A Consultative document was prepared by the Norwegian Post and Telecommunications Authority describing a systematic approach to collecting and making available data from the telecom market in Norway (combining sections 2-3 and 2-16 in the regulations). By 11 February 1999 the document was distributed to about 40 organizations asking for comments before 8 March 1999.

The objective of the document is to propose:

- The scope of the information requirement
- What definitions shall be employed
- Time-limit for annual reporting
- How to handle the issue of confidentiality (which data cannot be published)

The data form proposed in the document covers the following areas:

1. Telephony (PSTN and ISDN)
2. Mobile communications
3. Transmission capacity
4. Interconnection
5. Public telecommunications networks
6. Data transmission services
7. Internet
8. Other services
9. Prices
10. Financial matters

Regarding definitions, the starting point has been the definitions used by ITU and OECD, but some changes have been made.

Concerning the issue of confidentiality, Telenor has taken a somewhat reluctant position towards publication of statistics. On the other hand, some of the new providers in the market have argued that, in general, all data should be published, except revenues from each service.

The Norwegian Post and Telecommunications Authority also proposes that, based on the reported prices, some benchmarking of prices between operators could be done. This is, however, a very challenging task. In a competitive telecom market the providers will try to differentiate the services offered. This makes it difficult to compare prices.

At the moment the Norwegian Post and Telecommunications Authority is summarising the responses on the consultative document, and a final questionnaire will be sent to all registered providers in some weeks' time asking for data for 1998. This is why we find the timing and purpose of this meeting very useful. Hopefully the experience from other countries can be taken into account for Norway, and vice versa, so that pit-falls can be avoided and the quality of the *Norwegian Telecom Statistics* improved.

INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION DEVELOPMENT BUREAU

INFORMATION SYSTEMS UNIT

Document WTIM99/11-E
12 March 1999
Original: English

2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)

SOURCE: MS. DORA MOZES AND MR. HAIG MCCARRELL, STATISTICS CANADA

TITLE: TELECOMMUNICATION STATISTICS IN A COMPETITIVE ENVIRONMENT

_____

Telecommunications Statistics in a Competitive Environment

Presentation to ITU 2nd World Telecommunications Indicators Meeting
Geneva 29-31 March 1999

Presented by:
Dora Mozes, Industry Canada
Haig McCarrell, Statistics Canada

Objectives of Presentation

Part 1

1.1 Describe the changing environment in the Canadian Telecom Industry

1.2 Describe policy departments partnership with statistical agencies

Part 2

2.1 Describe statistical program in Canada to modernize existing statistics

2.2 Provide the lessons learned by:

- Central Statistical Agencies
- Policy Makers

1.1 Changing Environment in Telecom Service Industry

Pre-1992
Monopoly

- Few players
- Regulator involved in data collection

Post 1992
Competition

- Many new entrants
- Regulator less involved in data collection
- Role of statistical agencies increases

Post 1994
Convergence & Advances in Technology

- Focus of policy makers broadens to Information and Communication Technologies *(ICT)*
- Increased need for data on the demand of telecommunications and other ICT
- Statistical agencies data collection role increases

1.1 Changing Environment in Telecom Service Industry
Impact of Competition & Other Policy Objectives

Innovative Canadian policies have kept up with the pace of change and have resulted in one of the best telecommunications infrastructure.

Canada now has:

- Increased choice in number of telecommunications service providers
- Increased choice in innovative services
- Lower prices for end users
- Faster introduction of new services, goods, applications and technology
- End-to-end services are increasingly being offered

1.1 Changing Environment in Telecom Service Industry Impact on Information and Statistical Requirements

- De-regulation means regulators do not receive as much information directly from the telecommunications service providers as before

- Governments are taking a more “holistic” approach to telecommunications
  (e.g. move from focus on telecommunications suppliers to focus on Information Society)

- In Canada established:
  - Information Highway Advisory Council which results in two reports with several recommendations
  - Connectedness Agenda to make Canada the most connected nation in the world by the year 2000
  - Electronic Commerce Task Force to advance Canada’s role in electronic commerce

- Statistical agencies asked to provide supporting data and indicators to support policy development in all these areas

1.2 Policy Departments Partnership with Statistical Agencies

- **Building a bridge between users & suppliers of information**
- **Sharing expertise**
- **Sharing the cost of new initiatives**

1.2 Policy Departments Partnership with Statistical Agencies

Who? Industry Canada
Statistics Canada
The Canadian Radio-television and Telecommunications Commission *(CRTC)*
Telecommunication service providers *(supply side)*
Users of telecommunication services *(demand side)*

What? Survey on Telecommunication Service Providers & various "Demand-side" Surveys

When? On-going with annual & quarterly comprehensive reports

Why? Telecommunication Act, Radiocommunications Act, Broadcasting Act *(convergence)*, Statistics Act

1.2 Policy Departments Partnership with Statistical Agencies

Information Users → Advisory Group

- Policy Makers
- Regulators
- Industry Associations
- Service Providers
- Academia
- Media
- Advocacy Organizations
- Consultants/Analysts
- International Organizations

1.2 Policy Departments Partnership with Statistical Agencies Areas Requiring Re-design & Conceptual Framework

Survey Re-design

- Started in 1995 – results began to be released in Spring 1999

More Work

- Access
- Prices versus Charges *(i.e.demand and supply analysis)*
- Traffic *(Circuit-switched versus Packet-switched technology)*
- Individual contribution of telecommunications to the System of National Accounts *(SNA)*

Conceptual Framework for Indicators on:

- Information Economy
- Information Society
- Connectedness

Part 2 - Statistical Program & Lessons Learned

2.1 Statistical Program in Canada

- Drivers of the Re-design Process
- Industry Classification & Structure
- Operating Principles
- Contents of the Survey
- Benefits of the Survey Results
- Data Dissemination and Analysis

2.2 Lessons Learned

- Central Statistical Agencies
- Policy Makers

2.1 Statistical Program in Canada
Drivers of the Re-design Process

Industry Environment

- De-regulation
- Technological change
- Applications for new wireless services - e.g., Spectrum
- New entrants in response to the above changes

Statistical Environment

- Annual survey for Wireline carriers-PTOs since 1911
- Monthly survey since 1971 for Incumbent Telcos-PTOs
- Last major update - 1971, 1989
- Voorburg Model Surveys
- Commodity Classification work *(CPA, CPC)*
- New Industry Classification - NAICS

2.1 Statistical Program in Canada
Industry Classification

1980 **Standard Industrial Classification**
2 Industries

1997 **North American Industry Classification System *(NAICS)***
5 Industries:

51331 Wired Telecommunications Carriers

51332 Wireless Telecommunications Carriers
(except Satellite)

51333 Telecommunications Resellers

51334 Satellite Telecommunications

51339 Other Telecommunications

2.1 Statistical Program in Canada
Industry Structure

Wireline

- Incumbent - Large *(Stentor telcos -PTOs)*
- Incumbent - SME *(Independents - PTOs)*
- Alternatives

Wireless

- Cellular/PCS
- RCC *(including ESMR)*
- Paging
- Broadband *(LMCS)*
- Fixed

Resellers

- Wireline
- Wireless

Satellite

- Fixed
- Mobile
- Fixed reselling
- Mobile reselling

2.1 Statistical Program in Canada
Operating Principles

Five operating principles are key to gain co-operation from respondents:

1. Ensuring confidentiality
2. Limiting burden of respondents
3. Timeliness
4. Accuracy
5. Relevance

2.1 Statistical Program in Canada
Contents of the Survey

- The re-designed 1997 survey of telecom service providers will be one of the first surveys to provide data using the 1997 NAICS.

- Made up of ten modules & accompanied by a reporting guide:

1. Operating Revenues
2. Operating Expenses
3. Income Statement
4. Retained Earnings
5. Capital Expenditures
6. Balance Sheet
7. International Trade in Telecommunications Services
8. Employment
9. Network Statistics
10. Traffic Statistics

- Regional data *(provincial details)*

2.1 Statistical Program in Canada
Operating Statistics

- Frame Characteristics
- Activity - Commodity
- Financial Results
- Network Infrastructure

  (access lines, non-PSTN lines, % of digitalization, per capita measures, high speed services and lines, switches, cell sites, route kilometers copper, co-axial, fibre)
- Subscribers *(for major activities)*
- Traffic Data
- Employment *(full time/part time, FTE, by department)*
- International Trade in Services, Interconnection,Other

2.1 Statistical Program in Canada
Contents of the Survey

Commodity Classification ⟹ Operating Revenues Details

Telecom services

- Core services
  - Narrowband
  - Wideband
  - Broadband
  - Carrier services
  - Messaging *(Paging)*
  - Dispatch *(Radio Common Carriers)*
- Other
  - Calling Features, Connections

Non-Telecom services

- Sale of goods, terminal equipment rentals, directory advertising, retail internet, installation, repairs and maintenance

2.1 Statistical Program in Canada
Benefits of the Survey Results

- Unduplicated revenues - net of interconnection and contribution
- Market share analysis
  (flows between segments within each industry)
- Regional disaggregation will be affected by competitive environment and recent company consolidations

2.1 Statistical Program in Canada
Benefits of the Survey Results

Industry Development and Life Cycle of Wireline Resellers:

- Early growth - explosion of small providers
  (household and small business customers)
- Secondary growth phase coming from pre-paid card companies
  (retail marketing)
- Consolidation, buy-outs, mergers of small companies among resellers
- Acquisition of facilities *(trunks, inter-city lines, fibre)*
- Subsequent buy-out of these consolidated companies by large incumbents

2.1 Statistical Program in Canada
Data Dissemination by Statistics Canada
(On-line Internet- hardcopy on demand)

- CANSIM - historical time series at nominal cost
- Quarterly survey bulletins
- Annual survey bulletins reflecting re-designed survey modules
  (early release - provided to Advisory Group)
  - Connectedness
  - Financial results
- Annual compendium
- Analytical papers / special studies
- Special tabulations
- Summaries/brochures sent to respondents with following year's mailout *(hard copy - no charge)*

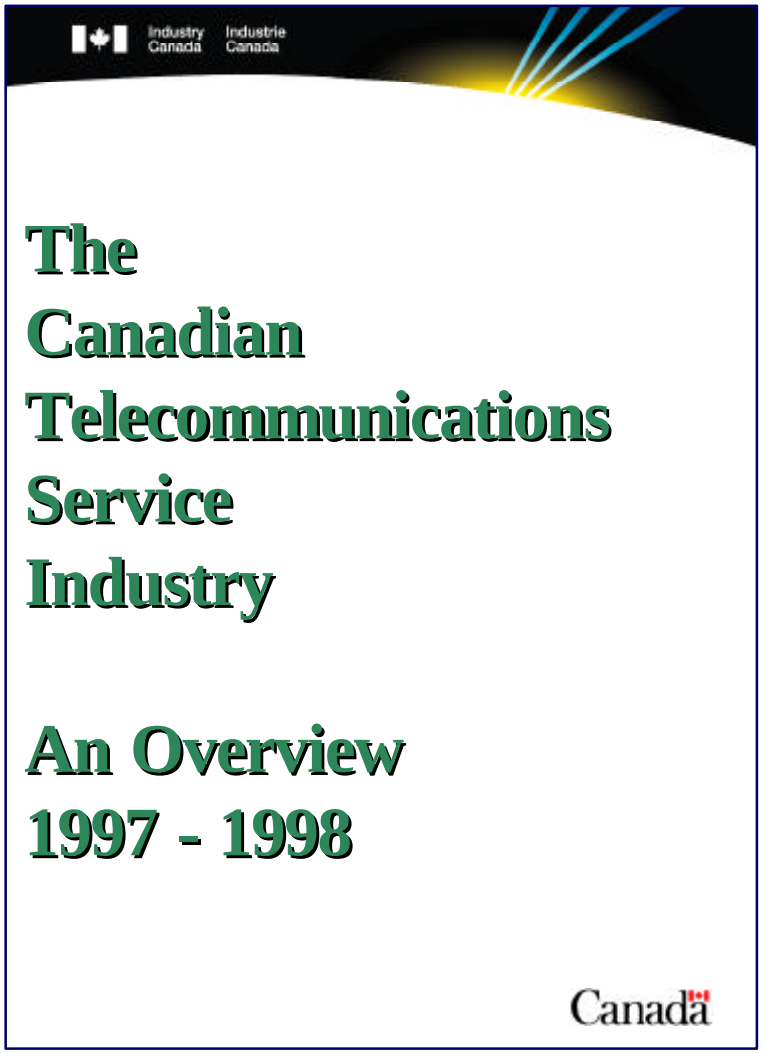
2.1 Statistical Program in Canada Analysis by Industry Canada

(On-line Internet- hardcopy on demand)

In Spring 1999, Industry Canada will release its publication.

It includes the following public and private sector information:

- Telecommunications Service Industry's contribution to the overall economy
- Description of the evolution of competition in the Canadian telecom service industry
- Financial and economic descriptions of the different segments of the telecom service industry
  - Local
  - Long distance
  - Overseas
  - Wireless



2.2 Lessons Learned
Central Statistical Agency

Establishing a good frame in a deregulated market is difficult

- License holders are not necessarily part of the frame especially for radio common carriers and pagers
- Births, deaths, mergers, consolidations, reorganizations are swift and frequent at various stages of market development
- All registered companies should indicate if they were operating or their projected operating date and whether the provision of telecom services constitute a majority of their revenues

2.2 Lessons Learned
Central Statistical Agency

An Advisory Group is important for ensuring industry buy-in for your statistical program

- include data providers in group as well as data users, or at least make the reporting departments aware of what's going on and help to get the two parties talking if possible

The inclusion of small companies is important

- their inclusion has allowed the publishing of 5 digit NAICS industry detail for the Resellers *(51333)* and "Other" *(51339)* industries
- allows better micro- analysis of SME's
- provide a simplified survey to ease response burden

Statistical agencies can benefit greatly from the participation of Policy Departments through their technical knowledge an their budgetary support

2.2 Lessons Learned
Policy Makers

Benchmarks on telecommunications is becoming increasingly important to policy makers.

Government departments responsible for telecommunications:

- must continue to monitor the telecommunications service industry on an on-going basis and disseminate aggregate non-commercially sensitive information
- should work closely with both the private and public statistical agencies to ensure
  - they are aware of current policy and regulatory developments
  - definitions are up to date
  - new market segments are identified early
  - differences between similar data are minimized
  - data gaps are identified and filled

2.2 Lessons Learned
Policy Makers

Government departments and other policy makers responsible for telecommunications should support statistical agencies so that the statistical agencies:

- collect and aggregate data, including commercially sensitive information, which are required by policy makers and all other users
- disseminate the data to all users in keeping with their obligations to respondents
- work with other statistical agencies to harmonize data collection and timing of data releases as much as possible.

2.2 Lessons Learned
Public Participation Tools

- Advisory Groups
- Public Proceedings *(written and/or oral)*
- Policy Reviews
- Workshops/Conferences
- International Organizations
- Internet *(Websites)*

INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION DEVELOPMENT BUREAU

INFORMATION SYSTEMS UNIT

Document WTIM99/16-E
12 March 1999
Original: English

2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)

SOURCE: MR. MOKOMANE SEJABAGALE MOKOMANE, BOTSWANA TELECOMMUNICATIONS CORPORATION (BTC), BOTSWANA

TITLE: STATE OF TELECOMMUNICATIONS STATISTICS COLLECTION AND DISSEMINATION IN BOTSWANA TELECOMMUNICATIONS CORPORATION (BTC)

_____

STATE OF TELECOMMUNICATIONS STATISTICS COLLECTION AND DISSEMINATION IN BOTSWANA TELECOMMUNICATIONS CORPORATION

BY

M.S MOKOMANE

Presented at World Telecommunication Indicator Meeting, 29-31 March 1999
Geneva - Switzerland

BACKGROUND

Botswana Telecommunications Corporation (BTC) is a state owned enterprise incorporated under the Botswana Telecommunications act of 1980 to provide all public telecommunications services in Botswana. As at end of February 1999, BTC had over 99,000-customer access lines in service, with a workforce of about 1700.

The corporation is divided into eight divisions, Corporate Business and Regulatory Affairs, Finance, Information Technology, Corporate Services, Commercial, North Region and South Region.

Botswana is a country in Southern Africa lying between latitude 18 and 27 degrees south and longitude 20 and 29 degrees east. The country covers an area of approximately 582,000 square kilometres, with a population of about 1.5 million.

Current services provided include national and international telephony, managed and data networks, very small aperture terminal (VSAT), private wires/leased circuits, toll free service, internet, paging, public telephones, voice messaging, telex, packet switching, telegraph, national and global prepaid telephone cards and customer premises equipment. International access is provided from Botswana to almost every country in the world.

In the December 1995, in recognition of the need to prepare the telecommunications industry for the irresistible developments, Botswana government formulated a "Telecommunications Policy of Botswana" The BTC amendment act of 1996. Following closely on the new policy, exclusive rights of BTC over the provision of telecommunications services in Botswana were removed. As a consequence a new Regulatory Authority was set up to issue regulations and licenses. This resulted in the establishment of two cell phone operators in 1998, who will also provide public payphones

Collection of statistics in Botswana Telecommunications Corporation

Use of statistics to measure performance has been recognized as the main driver of performance improvement in the organization. It was against that background that an integrated measurement system was developed and implemented across the organization.

Collection of statistics is based on main processes and key activities performed within the functional area. This covers statistics on provision of telecommunication services, waiting list, customer complaints, network reliability, human resources, finance etc.

For operational purposes the corporation is divided into two regions, North and South, each division in turn subdivided into Districts.

Collection of operational statistics is done at three levels, district, region, and corporate. Each district compiles statistics on a weekly basis, this is then consolidated into regional statistics, and statistics from the two regions merged to yield corporate statistics.

Apart from data compiled by districts, the other data comes from the telephone exchange system in the form of total exchange capacity, capacity in use, and spare capacity.

Managing and dissemination of statistics

Under the present set up, each division maintains their own Microsoft excel spreadsheets, but for operational statistics, files are linked at the headquarters to produce corporate totals. This is a network system where internal users are given read rights only.

At the end of the each month, hard copies of reports are produced and distributed to management. In addition to the monthly report, another report on principal statistics is produced after every quarter. This publication covers statistics on products and services offered by BTC, and includes general system size, main network, major outages,status of exchanges, manpower and traffic.

Problems experienced with collection of data

Variation

Because data is manually collected, a lot of inconsistencies are often detected, and verification consumes a lot of time.

Definitions

Since statistics are primarily generated for managing performance, the tendency is to define the indicator in a manner that meets your need as the user. This creates problems when aggregates for the corporation have to be compiled; though standard definitions have been published and disseminated to data collection agents.

For example there are two definitions of the waiting list.

1. "Total number of applications to a main telephone line that have had to be held over owing to lack of technical ability"

2. "Total number of applications to a main telephone line that have had to be held over for whatever reason."

The second definition includes applications that have had to be held over because there is a backlog, accessories not available, or for any other reason. The argument is that from the customer's point of view all reasons for waiting are valid.

Terminology

One problem is the use of different terminology to mean the same thing.
For example: Main telephone lines, access lines, working lines, direct exchange lines.
These could mean the same thing, or a different thing altogether

Summary and Conclusions

There is a big potential to improve collection and dissemination of statistics in the organisation, by having computer based information system that could provide statistics instantly. This will control the problems of non-standard definitions, and human errors. The new billing system that will be implemented during the year is expected to enhance collection of telecommunications statistics, as a lot of data collection will be automated.

INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION DEVELOPMENT BUREAU

INFORMATION SYSTEMS UNIT

Document WTIM99/26-E
27 April 1999
Original: French

2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)

SOURCE: M. ADRAMAN YANGANA, SOCATEL, CENTRAL AFRICAN REPUBLIC

TITLE: SOCATEL – BASIC DATA

_____

SOCATEL
(Société centrafricaine des télécommunications

Capital → 1 120 000 000 CFA francs

Shareholders → Central African State 60%
→ France (FCR) 40%

Current situation → in process of privatization

Turnover: 1996 → 7 380 000 000 CFA francs
1997 → 7 220 000 000 CFA francs
1998 → 7 174 000 000 CFA francs

Evolution of staff numbers

1990	354
1991	362
1992	367
1993	381
1994	379
1995	393
1996	409
1997	401
1998	388

Switching network

8 local telephone exchanges → Bangui 1
8 local telephone exchanges → Provinces 7

8 exchanges → 4 digital
8 exchanges → 4 electromechanical and semi-eletronic

Total capacity → 11.162 (1998)
Connected capacity → 9.563 (1998)
Occupancy rate → 85,67 (1998)

Switching network (cont.)

1 telex exchange	ELTEX V ALPHA
Equipped capacity	256 (1992)
Occupancy rate	34.76 (1996)

N.B.: installed at Bangui

Evolution in number of subscribers (1992 - 1998)

1992	6092
1993	9757
1994	7373
1995	7705
1996	9704
1997	9814
1998	9563

Evolution in number of subscribers at Bangui (1992 - 1998)

1992	5672	1996	8950
1993	6260	1997	9072
1994	6742	1998	8894
1995	7069		

Evolution in number of subscribers in the provinces (1992 - 1998)

1992	413	1996	760
1993	497	1997	742
1994	628	1998	669
1995	686		

Domestic satellite network (TELCASAT)

1990 → 4 stations → 1 master station
3 outstations

1993 → 9 stations → 1 master station
8 outstations

Plus 5 VSAT

Extension → In the short term, to 13 other provincial towns

International transmission by satellite

1983 - 1992 → scpc/FM

1993 → Mode IDR mode (2Mbits)

1995 → 2 links
- United States (52kbits)
- Cameroon (512kbits)

Cellular network (1995)

AMPS exchange

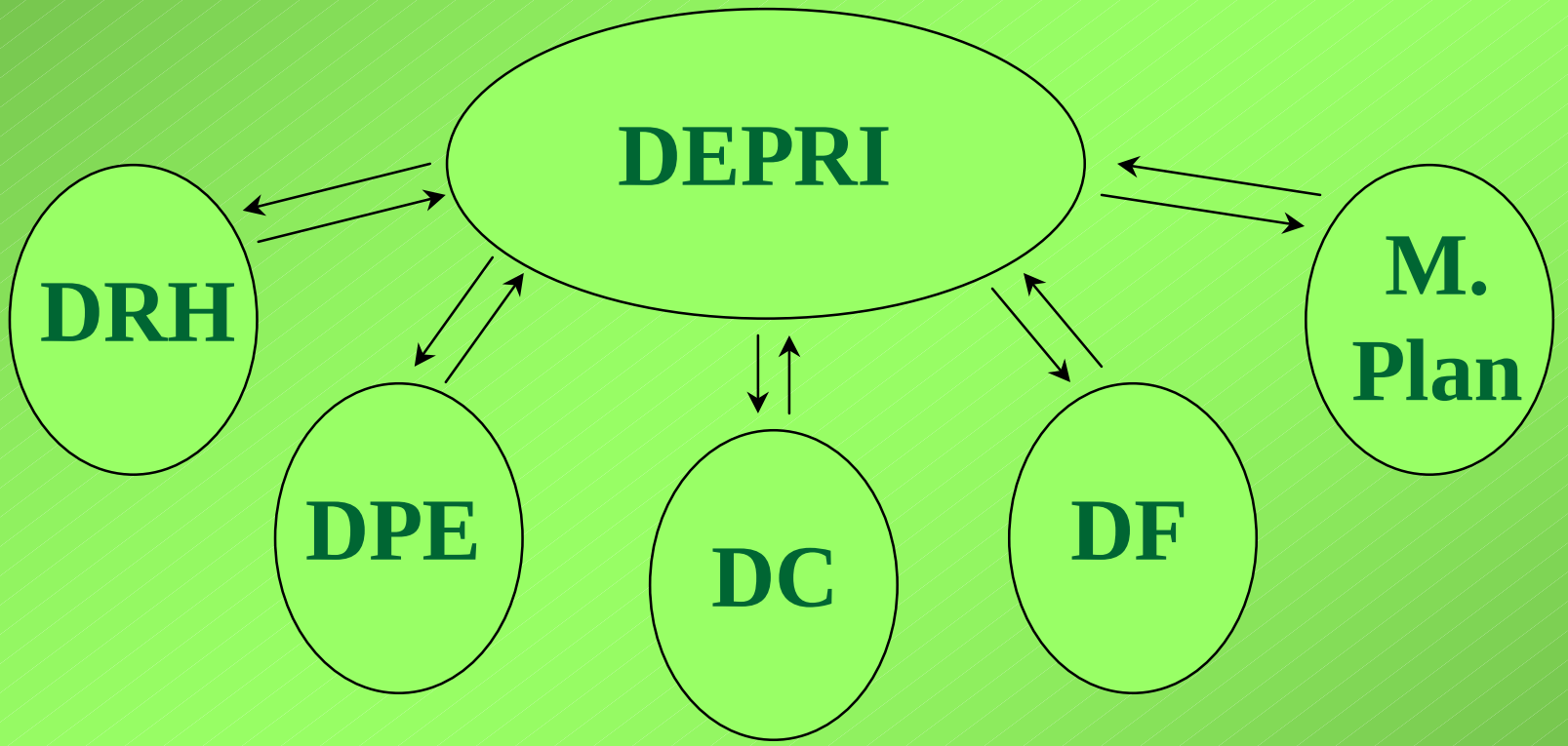
Number of subscribers ⟶ 710 (1998)

N.B.: GSM is currently being tested

Services provided

- Tg (telegraphy)
- Tx (telex)
- Tph (telephony)
- Fax (facsimile)
- Td (data transmission)
- Internet (1995)
- Videotex (being tested)

Data collection system



DEPRI: Directeur des Etudes, de la Planification et des Relations Internationales
DRH: Directeur des Ressources Humaines
DPE: Directeur de Production et Exploitation
DC: Directeur Commercial
DF: Directeur Financier Comptable et Informatique
M. Plan: Master Plan

1. Resources used

- Telephone
- Telex
- Fax
- Microcomputer

2. Difficulties encountered

- Transmission delays
- Incomplete data
- Inconsistent data
- Statistics not kept in certain services
- Unawareness of the importance of statistics

Short-term solutions proposed

- Alert service directors to the importance of statistics
- Provide service heads with printouts
- Designate persons to serve as liaison officers
- Hole information meeting with the liaison officers
- Provide information, explanations and training to liaison officers on how to compile data and fill in the forms, etc.