

Unclassified

DSTI/ICCP/AH(98)3



Organisation de Coopération et de Développement Économiques  
Organisation for Economic Co-operation and Development

OLIS: 17-Jun-1998

Dist.: 18-Jun-1998

PARIS

English text only

DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY  
COMMITTEE FOR INFORMATION, COMPUTER AND COMMUNICATIONS POLICY

DSTI/ICCP/AH(98)3  
Unclassified

## USER NEEDS AND A PROPOSED SET OF CORE TABLES

OECD, Paris, 18-19 June 1998

*Delegates are invited to review and discuss proposals for a core set of tables which would form the basis for future data collection efforts.*

Mr Andrew Wyckoff, ICCP Division; tel. +33 1 45 24 93 54; E-mail: [andrew.wyckoff@oecd.org](mailto:andrew.wyckoff@oecd.org)

66783

Document complet disponible sur OLIS dans son format d'origine

Completed document available on OLIS in its original format

English text only

## USER NEEDS AND A PROPOSED SET OF CORE TABLES

1. Issues related to the rapid diffusion and use of information and communication technologies (ICT) are high on nearly every OECD Member country's policy agenda and are the catalyst behind the desire for more comprehensive, timely and internationally comparable statistics which describe the emerging information society. It was this need that led OECD's Information, Computer and Communications Policy (ICCP) Committee to recommend in its 1996 report on the *"Global Information Society-Global Information Infrastructure (GIS-GIS)"* that an ad hoc advisory statistical panel be formed to "...develop definition and a framework of statistics and indicators for guiding information society policies" [OECD/ICCP(96)24/REV2]. At the first meeting of this group in 1997, a consensus was reached to develop an OECD definition, based on industries, of the information and technology sector with the intent of possible adoption in 1998. With the adoption of a definition, work developing a framework of statistics and indicators can begin. The intent of this paper is to outline some of the key user needs this framework should address and propose a set of "core" tables that would begin to satisfy these needs with the hope that this will provide a point of departure for discussion and refinement.

### *Policy Needs*

2. Policy needs in an area as dynamic as ICTs are constantly changing. Twenty-five years ago, a key policy issue was how to get terminals hooked to mainframes into homes because the cost of miniaturising computers would be too expensive<sup>1</sup>. Now there are dozens of miniature "computers" in every home and five on average in each car.

3. Issues such as the protection of consumers or of personal privacy have been around for centuries but have taken on new importance and complexity with the development of information society and the expansion of electronic commerce and the capacity to collect, store analyse and diffuse information. A decade or so ago, the promotion of the development of a competitive domestic IT producer sector and proposals for the liberalisation of telecommunication markets were key policy issues; these were followed by focus on IT diffusion policies and IT/telecom convergence and information infrastructure. At the end of the 1990s, policy approaches, and the respective roles of the public and private sectors, have changed significantly. The globalisation process, driven by worldwide information and communication networks, shows no signs of slackening and brings with it new policy issues. Focus has turned to electronic commerce, its social and economic impacts and the need to realise its potential benefits. At the approach of the millennium, the "Y2K" computer problem has highlighted the importance and pervasiveness of ICTs in all aspects of our economies and societies (and our consequent dependence on the robustness of those technologies). All these policy issues, and the unknown policy issues of tomorrow, will require analysis, quantification and statistics. It is unrealistic to be able to anticipate every policy issue associated with the information society, but 3 broad categories can be identified:

1. Measuring and monitoring the supply and demand of ICTs;
2. Assessing the economic impact of ICTs;
3. Evaluating the societal implications of ICTs.

---

1. Kemeny, John G. (1972), *Man and the Computer*, Scribners, New York.

4. Within these broad categories a number of more specific issues exist. The set that has been assembled for this paper are drawn from a number of policy documents analysing the formation of the information society. While the list is not exhaustive, it tries to identify the priority areas where publicly available data would enjoy a comparative advantage over privately available data which tend to focus more on more narrow issues of interest to business (e.g. the current production of EPROM v. DRAM memory chips).

1. Measuring and monitoring the supply and demand of ICTs:

- The composition and evolution of supply:

key policy issue: economic growth -- identifying the growth of the ICT producing sectors and their weight within the broader economy

data: production, value added, employment, international trade and R&D by ICT industries

- The diffusion and demand for ICT products:

key policy issue: tracking the use of the key enabling technology of the information society

data: surveys of ICT usage in the home, work, schools and government; input-output tables

2. Assessing the economic impact of ICTs:

- The impact of ICTs on prices, firm organisation/size and employment

key policy issue: productivity growth -- identifying how ICTs affect productivity growth through changes in firm organisational structure, size and staffing

data: micro-level firm data that longitudinally tracks firms use of ICT as well as changes in organisational structure and use of human capital

- The stimulation of demand for new ICT-based products and processes (e.g. electronic commerce)

key policy issue: economic and job growth -- identifying how new product demand will increase growth

data: tracking of supply of new ICT-based products (e.g. e-commerce, content, online services), ICT usage in the home and at work, access costs (ICT prices)

- ICT impact on skill requirements

key policy issue: what skills will ICT demand more of and what skills will be displaced

data: surveys of ICT at work (occupation and education), displacement effect of new ICT-based products (e.g. e-commerce, content, online services).

3. Evaluating the societal implications of ICTs:

- changes in the relationship between home, work, school and community

key policy issue: is the division between these institutions blurring, is the sense of community eroding?

data: surveys of ICT usage at home, work, school; time uses surveys

- impact on the distribution of scarcer resources (time and money)

key policy issue: are ICTs creating societies of information haves and have-nots?

data: surveys of ICT usage at home, work, school; time uses surveys

### Core Tables

5. From this list, a set of “core” tables can be identified. The purpose of these core tables would be to begin to collect statistics that would adhere to a common international definition of ICT and provide input to analytical exercises at the OECD and elsewhere. It is assumed that each of the variables listed below would be presented for each industry of the ICT sector and where possible the most expansive definition would be used, hopefully included industries such as content, on-line services and electronic commerce. Nevertheless, it is recognised that because data collection of this nature is new, and would represent an incremental burden on statistical agencies, it is important to make sure that the core tables make use of easily available data while at the same time address key policy issues. Thus the initial proposal would not fully encompass all of the policy needs identified above, but would strive to work towards this goal.

Table 1. Production

- gross output and value added in current and constant prices

Table 2. Employment

- jobs, wages, occupations and educational attainment

Table 3. International Trade

- exports/imports

Table 4. Innovation and related activities

- R&D (including the internal production of innovative software), patents, royalties
- percentage of revenue due to new or improved products
- introduction of new or improved processes

## Table 5. Use of ICT in the Home

- socio-economic demographics of users (income, age, sex, education, race)
- network connection, use of network (education, e-mail, entertainment, shopping), use of online services,
- type of network connection (modem, phone line second phone line, enhanced service)
- annual expenditure on ICT equipment and services

## Table 6. Use of ICT at Work

- socio-economic demographics of users (age, sex, education, race, occupation)
- penetration by industrial sector and size class
- annual stocks and flows of ICT equipment by sector
- annual expenditures on ICT services (software, consultancy) by sector
- network connection, use of network (proprietary EDI, Internet-EDI, information, e-mail, purchasing, advertising/marketing, online sales), use of online services,
- type of network connection (modem, phone line second phone line, enhanced service)

## Table 7. Use of ICT by the Public Sector

- penetration by broad category of government (health, education, library, general public administration)
- network connection, functions (word processing, e-mail, entertainment, shopping); use of online services, time usage of various ICTs (telephone, computer)
- official use of e-mail with citizens
- use of the Internet for government services (percentage of tax returns processed online)
- stocks and flows of ICT by broad category
- type of bandwidth to the agency (telephone connection, cable, satellite)

6. These tables can be used for a more narrow ICT industry definition as well as a broader definition of the information economy which includes the content industries. For the purposes of analysing policy issues, a more expansive definition is always preferred. Considering that much current attention has focused on the content industry, online services and electronic commerce, where ever possible the inclusion of these broader categories of the information economy would be welcomed.

## BIBLIOGRAPHY

Canada(1996)“MeasuringtheGlobalInformationInfrastructure”,March.

European Commission (1996, 1997), High-level Group of Experts, “Building the European Information SocietyforUsAll,”InterimandFinalreports.

Hawkins, R. W., R.E. Mansell and W.E. Steinmuller (1997), “Mapping and Measuring the Information technology,ElectronicsandCommunicationsSectorintheUnitedKingdom,SPRU,March.

OECD(1997)“GlobalInformationInfrastructure--GlobalInformationSociety”OECD/GD(97)138and 139.