



Statistics Canada

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Developing a user-centric statistical program
The Canadian experience with the Information Society Statistics Program (ISSP)

Statistics - Investment in the future 2

Daniel April

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Presentation outline



- Looking back – Lessons learned
 - The environment to develop user centric statistics
 - The key role of users
 - Staying relevant
 - The tools to work with policy users
 - Reaching beyond policy users

- Looking ahead - What needs to be done
 - A changing policy environment
 - New information needs
 - Necessary improvements to the statistical system

The environment to develop statistics

A mandate and policy monitoring objectives

- A world in transformation: some questions, few answers

- The policy agenda:
 - **Information Highway Advisory Council (IHAC, 1997)**
Identified three priority areas of public policy concerns, all centered on access to networks and services.
 - **The 1997 Speech of the Throne**
Make the information and knowledge infrastructure accessible to all Canadians by the year 2000, thereby making Canada the most connected nation in the world.
 - **The 1998 Ottawa Ministerial Conference on E-Commerce**
Work to improve the ability to measure the structure and volume of electronic commerce and to deepen our understanding of the impact of electronic commerce within and between businesses.

The key role of users

Helping define the program

- Identifying data gaps
- Setting priorities
 - Leveraging existing information
 - Improving ICT supply-side measures
 - Developing ICT use measures
 - Disseminating results to a wide audience
- Developing a strategy
 - Strong partnership between users and the National Statistical Office (NSO)
 - Fully engage in international initiatives
 - Involve policy users in the financing

Staying relevant

Respond to evolving policies and information needs

- The means available to the NSO are:
 - add value to existing information
 - develop, update or redesign existing surveys
 - focus analytical work on priority policy issues

- All approaches have been used through time to inform information society related policies. A few examples follow.

Adding value to existing information

Standards, data integration and germane analysis



- Development of standards to present basic economic indicators in a useful way. For example, ICT sector and ICT goods definitions.
- Bring together data from different sources to describe the information society (GDP employment, revenues, profits, assets, R&D and trade, penetration of selected technologies). Compendia publications.
- Focus analysis on relevant matters. For example, early studies of the determinants of Internet use based on existing household facilities surveys.

Develop, update or redesign surveys

The Household Internet Use Survey (HIUS) and The Canadian Internet Use Survey (CIUS)

- Early focus on measuring Internet penetration, then to availability and use of broadband, to understanding the nature and extent of use of the Internet by individuals and how it is affecting their lives.
- The survey evolved with each shift in policy interest. For example, measures of on-line purchases, privacy and security concerns, broadband take-up and specific uses of the Internet (e-health, e-education, e-government) were added at different points in time.
- Change from HIUS to CIUS in 2005 confirmed a shift away from connectivity issues.

Develop, update or redesign surveys

The Survey of E-Commerce and Technology (SECT)

- Annual survey that reports on the use and application of ICTs by businesses and institutions. It is designed to enable research on an emerging policy issue (separate module) in each cycle of the survey.
 - Information sharing over electronic networks; organizational change and innovation in the public sector;
 - use of innovative management practices;
 - use of Internet-based systems to manage selected logistics and customer relations activities.
- Relevance also maintained by adding (radio frequency identification or RFID), removing (computer use) and refining (web site functionality) questions and by building researcher data base.

Develop, update or redesign surveys

Annual and Quarterly Surveys of Telecommunications

- To measure the financial performance and economic contribution of the telecommunications services sector, the level of competition in its markets and the use of the telecommunications infrastructure.
- Redesigned twice in the span of a decade (now conducted with the regulator) to adapt to changing industry and market structures, and to provide the necessary data to develop and monitor related policies:
 - more product (market) detail to monitor competition;
 - more detailed geographic information on broadband deployment to broadband availability in rural communities.
- Monitoring report and integration into the System of National Accounts.

Focus analytical work on policy issues

A rich research agenda dealing with a variety of issues

- A few examples of successful research initiatives:
 - online activities of Canadian boomers and seniors;
 - Internet usage patterns in broadband households;
 - the impact of the Internet on social life and civic participation;
 - health information and the Internet;
 - the digital divide including the rural-urban divide;
 - profiles of top online spenders;
 - the effects of the Internet on the consumption of traditional media and on time use;
 - the relationships between adult literacy skills and use of ICTs.

The key to useful analysis

Data integration

- The data integration issue has largely been addressed in the household and individual statistics domain. In Canada, and elsewhere, surveys of ICT use by individuals often collect, or are linked to, the socio-economic variables necessary to conduct useful analysis.
- The SECT program does not have a built in data integration feature giving it access to the performance or characteristics data necessary to support analysis. The inability of the program to support studies of the impact of ICT use on firm performance has been its most significant weakness.

The tools to work with policy users

Sharing knowledge, managing expectations and accountability

- Two tools have played a crucial role in maintaining the relevance of the ISSP, and in doing so, the durability of the partnership with its users:
 - The building and supporting of communities of interest and of practice;
 - The signing of Memoranda of Understanding (MOU) and the tabling of reports on the outputs of the statistical program.

Communities of interest and of practice

Staying informed of issues and acquiring knowledge

- **Advisory committee**
 - Policy departments, the telecom regulator and the academic, research and business communities. Gave the NSO a network of knowledgeable users that contributed to the statistical program well after the end the committee's mandate

- **Consortium of funding users**
 - a round-table for on-going discussions of user needs and their integration into the program, facilitates the sharing of knowledge, provides opportunities to engage in joint analytical projects.

- **Outreach activities where users and suppliers of statistics meet**
 - meetings with federal and provincial departments and agencies, participation in workshops and conferences to demonstrate the program's analytical potential

Communities of interest and of practice

Beyond domestic boundaries to leverage best practices

- Working Party on Indicators for the Information Society (WPIIS)
 - The methodological work of the WPIIS underlies most Canadian statistics on the diffusion of the Internet. The work on model surveys and the e-commerce definitions were especially important.
 - The benchmarking of the Canadian information society against that of other countries was one of original goals of the project; OECD analytical compendia constitute an invaluable source of information for the user community.
 - Canada's involvement at the OECD reinforced domestic networks.

Memoranda of Understanding (MOU)

Managing expectations

- The MOU has brought focus and clarity to the project. It defines the management structure, roles, responsibilities and deliverables.
- The user's representative role is to identify relevant policy issues, provide subject-matter expertise where appropriate and act as liaison with outside stakeholders.
- The statistical agency is responsible for all statistical aspects of the work, including methodological and operational aspects, the creation and maintenance of data bases and the dissemination of statistical material.
- Individual teams are formed to deliver specific parts of the project, teams which often involve members from the user community.

Annual reports on the outputs of the program

Being accountable

- What policy is the project intended to serve?
- Were the outputs commensurate with the intended deliverables and did they meet scheduled milestones?
- Was the quality of the data high enough to allow for sound policy research/development?
- How has the data been used for policy research/development, and what further use is planned?
- How and by whom are the data used in the broader research community? What are future opportunities for wider use?
- Were full or partial funding sources found to support the program and, if not, what is the impact for policy research/development? What efforts have been made to secure alternative funding?
- What suggestions should be considered for improving data output, delivery, communications etc.?

Reaching beyond policy users

Informing Canadians on transformations to their economy and society

- Statistics Canada informs the general public of the main findings of its work - directly or indirectly by the media – primarily through its official release bulletin, *The Daily*.
- Free access to summary statistics on NSO website; tables dedicated to ICT use viewed 77,000 times since April 2008.
- Detailed on-line data base (for fee). More than 230,000 downloads of time series related to ICT use.
- For more sophisticated users, special tabulations and Public Use Microdata File (PUMF).
- Learning resources to secondary level students and teachers in business or information society studies through the E-stat initiative. Students learn about the profile of Internet shoppers and Internet businesses by using resources available on the Statistics Canada website and are asked to develop a business plan for their own Internet business. The lesson ranks 29th out of 192 in terms of use.

Sharing knowledge

Outreach, capacity building and training



- **International**
 - Working Party on Indicators for the Information Society (WPIIS)
 - UN's International Partnership on Measuring ICTs for Development
 - 2003 and 2005 UN World Summits on the Information Society

- **Bilateral**
 - International Development Research Centre
 - Caribbean and Latin America, Africa and China.

Looking ahead

A changing policy environment

- 2007 OECD Council at Ministerial Level
 - Statistics and measurement issues are central to the Innovation strategy and new initiatives to support the strategy are focusing on harmonized micro data analysis, a relatively unexplored domain.
- 2008 Seoul Ministerial on the Future of the Internet Economy
 - Declaration calls for “improving statistical systems to measure the changing access and use of the Internet and related ICT networks by citizens, businesses and institutions in order to provide reliable measures of evolving uses and the impact of the Internet on economic performance and social well-being”.
- A digital Canada and the Forum for the Digital Economy (2009)
 - Develop a domestic policy agenda around the following themes: promoting business innovation using ICTs, building a digital infrastructure for the future and ensuring a safer, stronger online marketplace.
- Investing in infrastructure to stimulate the economy (2009)

Looking ahead

A changing statistical environment



- Policy analysts and statisticians alike can expect the demand to build for information to describe technological transformations and understand their impacts.

- In the domain of information society statistics, this requires an infrastructure that includes:
 - Integrated surveys of innovation, business practices and technology use (in particular ICT use) whose results are linked to business performance data;
 - A capacity to develop new indicators (household and business);
 - A capacity to engage in analytical projects.

Looking ahead

Necessary improvements to the Canadian statistical system

- On the business side:
 - Integration of business practice and firm performance data, ideally in a manner coherent with the approach adopted in other countries.
 - Improved integration of the content or methodologies of core surveys of business practices.
 - New indicators of the deployment of various e-business processes and of the level of integration between these processes along the supply-chain.

- On the household side:
 - a shift in measuring use of the Internet from home for personal non-business reasons to measuring use from any location and for any purpose.

Conclusion

A lot done, much more to do

- In Ottawa in 1998, few official statistics were available to inform the Ministerial Conference on Electronic Commerce.
- By 2008, a compendium describing the information society in statistical terms was available to inform the Seoul Ministerial on the Future of the Internet Economy.
- This progress would not have been possible without bringing users and producers of statistics at the same table.
- The task has become more complex with time. At first, the statistical system was expected to develop indicators that describe the information society and to develop a framework to present statistics in a useful way. It is now being asked to develop frameworks to produce internationally comparable analytical outputs.
- The need to pool resources and share knowledge and best practices seems more important than ever before.