



# Social impacts of ICTs: A Canadian perspective

**WPIE-WPIIS Workshop  
London, May 22, 2007**

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# Overview - Social impacts of ICT

- **Assessing social impacts—The issues raised**
- **Our tools to answer these questions**
  - Relevant statistical programs
  - Completed studies
  - Forthcoming studies
- **Recommendations and opportunities**



# Assessing social impacts—The issues raised

- Do new ICTs create a gap between have and have not?
- Evolution of the digital divide: from access to usage divide and readiness to engage with Internet
- How have new ICTs integrated into people's daily lives?
- Internet and social connectivity: Does Internet play a role in creating social networks?
- How is Internet changing our concept of community?
- How is Internet transforming social engagement and civic participation?
- Do new ICTs change the way people see and interact with the media?

# Relevant statistical programs

- **Explosion of interest in ICT indicators**
- **Measures of ICT infrastructure, access and use**
  - Canadian Internet Use Survey (2005)
  - Survey of Electronic Commerce and Technology
  - Survey of Household Spending
  - General Social Survey (Time use - 2005)
  - Adult Literacy and Life Skills Survey (2003)
  - ICTs in Schools Survey (2003/04) and more...
- **Some early attempts to measure linkages, outcomes and impacts analytically**
- **Experimenting with new approaches to assess social impacts of ICTs in particular**



# Completed studies 1: a retrospective analysis

- **Sciadas (2006) finds some expected outcomes of ICTs have not (or not yet) materialized:**
  - no paperless office
  - more travel than ever
  - e-commerce not threatening retail trade.
- **Some key outcomes of ICTs manifest by changes in behavioural patterns, especially in communications and spending patterns.**





# Completed studies 1: a retrospective analysis



*A “talkative society”*

- **Internet:** People communicate more than ever with e-mail and spend more time using ICTs - number of Internet subscriptions, increased access to broadband, use of e-mails, chatting and intensity of Internet use.
- **Telephone:** enormous increase in use of wireline networks in last 20 years, in both frequency of calls and time, while subscriptions to mobile phones on the rise.
- **Pattern of communications is changing:** rise of long distance calls (frequency and duration) and explosion in international calls (are cheaper).





# Completed studies 1: a retrospective analysis

- Spending on ICTs growing with substitutions in favour of newer ICTs (Internet, mobile phones);
- Willingness to pay in that many low-income households choose to spend a relatively higher proportion of their income on ICTs; and
- The way we see and allocate our time changes ('multi-tasking')





# Completed studies 2: Time use study

- Veenhof (2006) touched off a debate about the impact of Internet on time use and social cohesion using a 24-hour time use diary from the 2005 General Social Survey.
- The study highlighted that despite reduced face-to-face contact, persons using Internet more intensively interact in other ways.





# Completed studies 2: Time use study

- **Heavy Internet users (+1 hour a day) spend more time alone (about 119 minutes more) than non-Internet users, even after controlling for socioeconomic factors (26 minutes more alone for moderate users).**
- **Internet users spend less time with family and friends but more time talking on the phone (at least 2 minutes more); notion of 'media multiplexity'.**
- **Face-to-face contact with others was less frequent among Internet users, but they reported social networks of similar size to non users.**
- **Internet users interact socially in a different manner (that is on line, e.g. e-mail, chatting).**



# Completed studies 2: Time use study

*Use of Internet goes in hand with  
use of other media:*

- Internet users are as likely to watch TV as much as non users once socioeconomic factors are controlled for (120 mn a day, see Veenhof 2007);
- Internet users also avid users of other media such as books (4 mn more a day and with greater frequency)...
- ...and CDs: Heavy users spent more time listening to music in traditional formats while more likely to download music.



# Completed studies 3: Communities of interest



- **Sciadas (2006) asserts that Internet allows for the gathering of communities of interest focused on a specific objective.**
- **Geography or distance does not necessarily define a community nor is it a barrier to social interaction; see Veenhof (2005)'s international study on adult literacy and Internet use, based on the 2003 Adult Literacy and Life Skills Survey (ALL) and its Canadian component:
  - language spoken and immigrant status are among other factors that shape communities of interest.**



## Completed studies 3: Communities of interest

- Language spoken at home and heavy computer use: in Canada, Bermuda, Italy, Norway and the U.S., those individuals whose spoken language at home differed from official language(s) were significantly more likely to be heavy computer users.
- Immigrants, and in particular recent immigrants ( $\leq 5$  years), were much more likely to be heavy computer users: half of recent Canadian immigrants with home access to a computer used it for at least 30 hours per month, compared with 28% for both established immigrants and non immigrants (more findings upcoming at [2007 STC Socio-economic Conference](#)).
- Those findings are testament to the fact that Internet can be an essential resource for keeping in contact with family abroad, and for providing cultural content.



# Forthcoming studies

## Statistics Canada Socioeconomic Conference May 28-29, 2007

### *“Indicators and impacts of a digital society”*

- Topics range from the urban-rural divide to the intensity of Internet use and to the role of Internet in social engagement and accessing government.
- Analyses are based on Canadian Internet Use Survey (CIUS), its predecessor, the Household Internet Use Survey (HIUS) and other sources including Survey of Electronic Commerce and Technology (SECT).

# Forthcoming studies: Indicators and impacts of a digital society

- Larry McKeown (Statistics Canada) and Anthony Noce (Industry Canada), “Factors influencing Internet use in Canada: Does urban size matter?”
  - Review of factors influencing individual Internet use in Canada; although age, income and education remain important, the effects of gender and presence of children have changed. And the rural digital divide persists.
  
- Ji-Youn Kim, Marc Gendron and Anthony Noce (Industry Canada), “The development of Internet use in Canada, 1997-2003: Use variables and economic policy”.
  - Income elasticities for Internet use are calculated from 1997 to 2003 using HIUS; relatively low and declining values are indicative of a transition of the Internet from a luxury good to a necessity, not unlike the telephone.



## Forthcoming studies: Indicators and impacts of a digital society

- Catherine Middleton and Jordan Leith (Ryerson University), “Intensity of Internet use in Canada: Exploring Canadians’ Engagement with the Internet”
  - Authors use the notion of ‘Internet engagement’ - a cluster of basic activities including intensity, scope and experience - to move beyond simple access metrics in assessing the ability of Canadians to participate in a digital society.
  
- Cathy Ladds (Treasury Board Secretariat) and Cathy Underhill (Statistics Canada), “Connecting with Canadians: Assessing government on-line”
  - Education an important determination of accessing Government on-line (GOL) services; these GOL Users require a certain threshold of use or Internet “comfort” (uses, experience), not unlike e-commerce.



## Forthcoming studies: Indicators and impacts of a digital society

- Carsten Quell (Canadian Heritage), Ben Veenhof (Statistics Canada), Barry Wellman and Bernie Hogan (University of Toronto), “Isolation, cohesion or transformation? How Canadians’ Use of Internet is shaping society”
  - Authors use national survey data and local interviews to show that recent immigrants use Internet to communicate with both family and friends more often than Canadian-born citizens and less recent immigrants, but that Internet does not replace face-to-face contact in their new community – rather it supplements this contact.
  
- Jeff Corman and Anthony Noce (Industry Canada), Bryan van Tol and Mark Uhrbach (Statistics Canada), “Reconciling Canadian e-Commerce estimates: A review of definitional and measurement issues”
  - Authors compare supply and demand side estimates of electronic commerce in Canada; review conceptual and operational challenges of measuring Internet-based transactions with traditional survey instruments



## Other forthcoming studies



### *Connectedness Series or Innovation and Analysis Bulletin*



- The role of Internet in the search for medical or health related information (2005 CIUS);
- Internet “Drop outs”: What are the characteristics of those individuals who used Internet in the past but discontinued?;
- Gender divide;
- Internet and the elderly: using 2007 General Social Survey and 2007 CIUS
- ICT capacity building: a Canadian perspective



# Recommendations and opportunities

## *New approaches for understanding IMPACTS*

- **Measures of activities and linkages can shed light on outcomes and impacts through analytical work**
- **New indicator development should be demand-driven and take into account policy needs, relevance, international comparability**
- **Different approaches for understanding impacts may be required for different ICT related activities**
  - New or redesigned surveys and indicators
  - New areas of research (e.g. social cohesion, social networks)
  - New uses of existing data (micro-data, longitudinal data)
  - Expand analytical approaches and techniques

# Recommendations and opportunities

## ■ Improve survey tools to take advantage of:

- Specific ICT sector and ICT use surveys: better questions aimed at impacts, targeted population coverage (e.g. immigrants, youth, seniors, Aboriginals and other ethnicity)
- Contextual surveys with ICT modules (e.g. General Social Survey: cycles on Time Use and Family, Social Support and Retirement; ALL)

## ■ Further develop analytical techniques and tools to trace pathways and identify sequence of events for ICT impact activities

- explore econometric modeling, micro-simulation
- build capacity among data users, analysts

## ■ Build on measures of activities and linkages to better understand changes in behaviours, decision-making, outcomes and impacts

- encourage use of micro-data, longitudinal data, data linkage and integration



# Recommendations and opportunities

- **Coordinate activities among experts, policy makers, national statistical offices and international bodies to develop an agreed upon conceptual framework for ICT impact indicators**
- **Coordinate international development of guidelines, indicators, approaches for assessing ICT impacts**
  - NESTI, WPIIS (i.e. impacts expert group)
  - set of 'core' impact indicators or model questions
  - capacity building



# List of studies

- Sciadas, G.(2006) “[Our Lives in Digital Times](#)”, Statistics Canada, *Connectedness Series*, Cat. No. 56F0004MIE, No. 14.
- Veenhof, B. (2007) “[Are Internet users tuning out traditional media?](#)”, Statistics Canada, *Innovation and Analysis Bulletin*, Vol. 8, no.3, Cat. No. 88-003-XIE, December, 23-25.
- Veenhof, B. (2006) ”[The Internet: Is it Changing the Way Canadians Spend Their Time?](#)”, Statistics Canada, *Connectedness Series*, Cat. No. 56F0004MIE, No. 13.
- Veenhof, B., Sciadas, G., and Y. Clermont (2005) “[Literacy and Digital Technologies: Linkages and Outcomes](#),” Statistics Canada, *Connectedness Series*, Cat. No. 56F0004MIE, No. 12.



## For additional information...

- [August 15, 2006 Daily](#)

- [November 1, 2006 Daily](#)

- For more information, please go to Statistics Canada's Website:

<http://www.statcan.ca/>

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