# Women and information and communication technologies (ICTs)

he advent of new information and communication technologies (ICTs), such as the Internet, has revolutionized the way people communicate, access information, create networks, develop business opportunities, etc. While it brings important economic and social benefits, this revolution also poses challenges and risks.

This year, the Canadian theme for *International Women's Day/Week (IWD/IWW)* is *World-Wide Women (WWW): Surfing the Digital Revolution!* This theme allows Canadians to take a closer look at the impact of ICTs and, in particular, the Internet applications on women, and their use as a tool for the empowerment of women and the promotion of women's equality.



# World-Wide Women (WWW): Surfing the Digital Revolution!

stablished in 1977 by the United Nations, International Women's Day (IWD) provides an opportunity to reflect on the progress made to advance women's equality, to assess the challenges facing women in contemporary society, to consider future steps to enhance the status of women and, of course, to celebrate the gains made in these areas. Canadians will celebrate International Women's Week (IWW) from Sunday, March 2 to Saturday, March 8, 2003, with the highlight being International Women's Day on March 8.

# WHAT DO ICTS AND THE INTERNET HAVE TO OFFER?

ICTs and the Internet create new possibilities for achieving educational goals by providing opportunities for skill enhancement and long distance education.

They provide the means for enhancing interaction between governments and citizens. Governments at all levels, and other public sector institutions, such as those in the education and health sectors, are turning to the Internet as a means of increasing the range, reach and availability of their services. Services are available 24 hours a day, seven days a week, independent of location.

ICTs can also create new types of economic activity and employment opportunities. ICTs have altered the way in which many goods and services are produced and sold. From a consumer's perspective, electronic commerce (also called "e-com") offers significant benefits such as greater choice, increased convenience and lower prices. From a business perspective, e-com offers benefits such as lower procurement costs, reduced processing errors, reduced inventory costs, reduced time to market, extended business reach and improved customer services.

#### What are ICTs?

As the name suggests, information and communication technologies encompass all forms of tools and services that facilitate the production, process, distribution, transfer and exchange of information via computer and telecommunication network infrastructures. ICTs range from radio and television to telephones (fixed and mobile), computer hardware and software, computer services and Internet applications (like electronic mail, electronic commerce, newsgroups, chat rooms). This fact sheet focuses primarily on the Internet.

Beyond the benefits for economic development, ICTs and the Internet have vast potential for human development as well as for women's empowerment. They allow women, and women's organizations, to:

- gain access to a wide variety of up-to-date, timely information, data and resources that may not be available locally. They can also provide tools for job hunting and searching for funds, etc.;
- communicate widely (locally, nationally, internationally) and quickly. Electronic mail (e-mail) can save postal and long-distance fees, as well as time;
- disseminate information.
  The Internet can be used as a promotional tool to advertise women's services and organizations, and to increase awareness of women's issues and educate people about them;

- break isolation and access virtual communities or on-line support groups for women not readily available within their community;
  - create networks and share experiences, best practices, lessons learned, ideas and opinions;
- mobilize and take action for social change. On-line activism has generated worldwide support for women's issues, such as human rights violation, gender-based exploitation and violence against women. The *World March of Women in the Year 2000* and the situation of women in Afghanistan are just a couple of examples of how the Internet can be used, with success, to mobilize people around the world on women's issues.

#### **SOME FACTS:**

## Canadian women and the Internet:

The use of the Internet by Canadians has increased dramatically over the past few years. In 2000, more than half (53%) of Canadians over the age of 15 were using the Internet at home, work or elsewhere, compared with 18% in 1994.<sup>1</sup>

Canadian women use the Internet less than men. Only one out of two Canadian women has access to the Internet. In 2000, close to 50% of women (over age 15) used the Internet at home, at work or elsewhere, compared with 56% of men. However, the gender gap appears to have been reduced over time. In 1994, 14% of women and 22% of men were using the Internet.1

As with Canadian men, Canadian women who use the Internet tend to be younger, have more education and earn higher incomes than those who don't.1

Francophone women are also less likely to use the Internet than Anglophone women (40.4% compared with 55.3%, respectively) and women living in rural Canada are less likely to use the Internet than urban dwellers (45.5% compared with 50.7%, respectively).

# Community organizations and the Internet:

While many Canadian community organizations have access to the Internet, almost one in two (48%) organizations with revenue less than \$100,000 are unable to provide Internet access to any of their employees or volunteers.<sup>2</sup>

In sharp contrast, 52% of organizations with revenue from \$100,000 to \$499,000, and 44% of organizations with revenue of \$500,000 or more provide Internet access to more than three quarters of their employees and volunteers.<sup>2</sup>

Overall, 64% of organizations that are currently without Internet access believe it is unlikely that they will be able to get connected in the next year.<sup>2</sup>

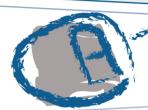
#### Women in the IT sector:

Women make up one-quarter (26%) of computer professionals in Canada, but almost half of workers in jobs needing high-level computer skills (44%).<sup>3</sup>

Only one out of five full-time undergraduate students enrolled in computer science is female (21% are female, versus 79% who are male).4

Close to three out of 10 part-time undergraduate students enrolled in computer science are female (27.5% are female, versus 72.5% who are male).4

Gender differences in enrolment are larger for computer programming courses than for computer application courses and become more pronounced at higher levels of education.<sup>5</sup>



# Business women and the Internet:

Eighty per cent (80%) of the Women Business Owners of Canada (WBOC) members use the Internet, 55% do so regularly.6

Seventy-six per cent (76%) of WBOC members who are Internet users cited communications and electronic mail as a frequent Internet activity, 52% cited conducting fact-finding research, and 43% cited downloading information and files as a frequent activity. Just 22% of members say they use the Internet frequently to conduct business transactions.<sup>6</sup>

#### Sources:

- Dryburgh, Heather. 2001. Changing our ways: Why and how Canadians use the Internet. Ottawa: Statistics Canada.
  - < http://www.statcan.ca/english/research/56F0006XIE/56F0006XIE.pdf >. Accessed January 31, 2003.
- EKOS Research Associates Inc. 2001. Survey of Voluntary Organizations Final Report.
   Ottawa: Industry Canada Volnet. < http://www.volnet.org/EkosHTML/index.htm >.
   Accessed January 31, 2003.
- Dryburgh, Heather. Spring 2002. "Learning computer skills" in Canadian Social Trends.
   Ottawa: Statistics Canada. < http://www.statcan.ca/english/kits/pdf/social/skill2.pdf >.
   Accessed January 31, 2003.
- 4. Statistics Canada. 2001. Education in Canada, 2000. Ottawa: Statistics Canada.
- Crombie, Gail. 1999. Research on young women in computer science: promoting high technology for girls, Presentation made at the Annual meeting of the Professional engineers of Ontario, Women in Engineering Advisory Committee on May 1, 1999.
   http://cythera.ic.gc.ca/htos/allfemalecs/ >. Accessed January 31, 2003.
- IBM Canada Ltd and The National Foundation for Women Business Owners. 1999. Women Business Owners of Canada: Entering the New Millennium. < http://www.can.ibm.com/news/latest/023/women.pdf >. Accessed January 31, 2003.

#### THE DIGITAL DIVIDE:

We often talk about the 'digital divide' between developed and developing countries. However, these statistics bring evidence of the inequalities of access to and use of the Internet by women in Canada. There is growing international recognition that the 'digital divide' is a multi-dimensional phenomenon that not only separates developed and developing countries, but also separates groups of people within countries on the basis of factors such as gender, income, levels of education and literacy, cultural and linguistic heritage, and mental and physical ability.

1

The digital divide is

"the gap between individuals,
households, businesses and
geographic areas at different
social-economic levels
with regard both to their
opportunities to access ICTs
and their use of the Internet
for a wide variety of activities."
(OECD, 1999)

"Getting on-line and using electronic communications effectively is not a one-size-fits-all exercise."

(Jo Sutton, Womenspace)

# BREAKING DOWN THE 'FIREWALL' – THE CHALLENGES:

Each of the following areas poses specific challenges to women and women's organizations in relation to access to and use of the Internet:

#### Financial costs related to the Internet:

Many women and women's organizations do not have the money to purchase computer equipment, software or to pay the monthly Internet service provider fees. Training and upgrading of equipment and software also require substantial financial investment. Financial costs are the greatest obstacle.

#### Language:

The majority of on-line material is in English. For many individuals who do not speak English, language is a major barrier.

#### Isolated locations:

In rural and remote areas, the infrastructure that supports the Internet (such as phone or cable system) may be outdated or nonexistent and Internet service providers may simply not offer services. Therefore, many women in these areas cannot access the Internet.

Computer illiteracy and lack of training.

#### Time constraints:

Given workload or family responsibilities, many women do not have the luxury of free time to learn how to use the Internet.

#### Quantity and quality of information:

The Internet is the world's largest virtual library. The sheer amount of information available on-line can be overwhelming. It can be time consuming to search for relevant information. Furthermore, the quality of information on-line varies considerably. It can be difficult to distinguish the validity of information. Despite the quantity of information, there is often a lack of relevant content that reflects women's interests, concerns and issues, which increase the difficulties in finding appropriate information on-line, for and about women. Developing critical thinking abilities is an asset to anyone using the Internet as a research tool.

#### On-line safety and pornography:

The Internet gives a voice to anyone who can get on-line. For some people, this is an opportunity to proclaim hatred or to harass women on-line. The Internet is also used to perpetuate negative and degrading images of women and girls, often through pornography or strong stereotypical representations. The proliferation of such content creates a barrier to women finding resources relevant to themselves and increases the perception of not being safe on-line. The good news is that some Web sites offer strategies to address these issues so that women and girls can go on-line easily and safely.

#### Stereotypes and cultural barriers:

Computers are still perceived as being a male domain. Many women and girls either feel excluded or have an aversion to new technology. Some people also perceive the Internet as another medium that is contained and constrained by capitalism and patriarchy. They wonder if it only promotes economic interests at the detriment of human interests.

#### The gender gap in the high-tech sector:

Girls have a low rate of enrolment in high-technology programs and women are underrepresented in high technology-related careers, such as computer engineering and programming, and in higher decision-making positions. There is an absence of remedial strategies to address these concerns. All of these contribute to widening the gender gap. Women who pursue careers in computer science face many

of the same challenges that have plagued the engineering profession for decades, such as under-representation in top management positions, inflexible work environments, and male-dominated industry events and professional associations.

Lack of gender-based strategies and policies to address the specific issues and barriers women face for their active involvement, participation and decision-making in the ICTs.

Those who are excluded from the Internet will also be excluded from its benefits. Without access to the technology and skills in using it, women and minorities will continue to be relegated to the sideline of ICTs. Even worse, without participation in decision-making roles, women not only lose out on the benefits as users, but also the ability as producers to create those benefits.

The Government of Canada has helped establish thousands of public access points in places like libraries, community centers and schools where you can go on-line for free — or for a very low cost. To find the nearest public access site, call 1-800-268-6608.

Some Web sites also offer free e-mail address (such as < www.ca.yahoo.com > and < www.hotmail.com >).

To create your own e-mail address, log-on to one of these sites and follow the steps. Once you create your account (e-mail address), you'll be able to send and receive messages when you log into the site from any computer around the world.

# ICTs, A TOOL FOR THE ADVANCEMENT AND EMPOWERMENT OF WOMEN – SOME INITIATIVES:

The good news is that many women's organizations are working to address the uneven access to and the low participation of women using ICTs. Some of these initiatives will: increase the awareness of the potential impact of ICTs on the status of women; develop on-line resources and tools for women (such as women's directories); ensure that women's communications rights are respected and that inclusive ICT policies are developed; and/or advocate for a greater role for women in the ICT sector, whether as participants, producers or decision-makers. To learn more about some of these initiatives, check out the following links:

Canadian Women's Information Centre:

< www.womennet.ca > (bil)

Media Watch:

< www.mediawatch.ca > (bil)

Par-L:

< www.unb.ca/PAR-L > (bil)

Studio XX:

< www.studioxx.org > (bil)

Womenspace:

< www.womenspace.ca > (bil)

BC Women:

< www.bcwomen.bc.ca > (Eng)

Canadian Women's Internet Association:

< www.herplace.org > (Eng)

Women in Global Science and Technology (WIGSAT):

< www.wigsat.org > (Eng)

Working to Halt Online Abuse (WHOA):

< www.haltabuse.org/index.shtml > (Eng)

Cybersolidaires:

< www.cybersolidaires.org > (Fr)

Fédération nationale des femmes canadiennesfrançaises – Les femmes francophones en situation minoritaire au Canada et les technologies d'information et de communication:

< www.franco.ca/fnfcf > (Fr)

NetFemmes

< http://netfemmes.cdeacf.ca > (Fr)

Professional women's associations and networks working in ICTs:

Canadian Women in Communications:

< www.cwc-afc.com > (bil)

Digital Eve Canada:

< www.digitalevecanada.com > (bil)

Society of Canadian Women is Science and Technology (SCWIST):

< www.harbour.sfu.ca/scwist > (Eng)

Wired Women:

< www.wiredwoman.com/index.shtml > (Eng)

Femmes regroupées en options non traditionnelles (FRONT):

< www.front.qc.ca > (Fr)

In preparation of the *World Summit of Information Society (WSIS)* taking place in Geneva in December 2003 and in Tunis in 2005, many women's organizations are mobilizing to develop their own platform of demands in regards to fair and inclusive access to ICTs.

Meanwhile, the 47<sup>th</sup> session of the United Nations Commission on the Status of Women (UNCSW) that will be held from March 3 to 14, 2003 at UN Headquarters in New York will address women's participation and access to ICTs, as well as their impact on and use as an instrument for the advancement and empowerment of women. For more information:

World Summit on the Information Society:

< www.itu.int/wsis > (bil)

**WSIS Gender Caucus:** 

< www.wougnet.org/WSIS/wsisgc.html > (Eng)

Commission on the Status of Women (CSW):

< www.un.org/womenwatch/daw/csw/47sess.htm > (Eng)

Expert group meeting (EGM) on ICTs and their impact on and use as an instrument for the advancement and empowerment of women:

< www.un.org/womenwatch/daw/egm/ict2002/ > (Eng)

Canada at the WSIS

< www.wsis-canada.gc.ca > (bil)

### Some of the Government of Canada's useful Web sites to add to your bookmarks:

Government of Canada:

< www.canada.gc.ca >

Business Development Bank of Canada:

< www.bdc.ca >

Canada's Information Technology Week:

< http://semaineti.gc.ca >

**Connecting Canadians:** 

< http://connect.gc.ca >

Electronic commerce in Canada:

< http://e-com.ic.gc.ca >

Government on-line:

< www.ged-gol.gc.ca >

Human Resources and Development Canada (HRDC):

< www.hrdc-drhc.gc.ca >

Industry Canada:

< www.ic.gc.ca >

Office of Learning Technologies (OLT):

< http://olt-bta.hrdc-drhc.gc.ca >

Status of Women Canada (SWC):

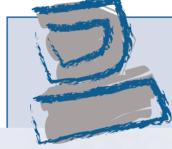
< www.swc-cfc.gc.ca >

Survey of Voluntary Organizations (Volnet):

< www.volnet.org/EkosHTML/ >

Web-4-AII:

< www.webpourtous.ca >



To learn more about International Women's Day/Week, check out the following link:

< www.swc-cfc.gc.ca/dates/iwd/index\_e.html >

#### References:

Brayton, J. 1999. "Women's Love/Hate Relationship with the Internet" in I. Markovic (ed.) *Cyberfeminism* [ver 1.0]. Zagreb: Centre for Cultural Studies. < http://www.unb.ca/web/PAR-L/win/essay.htm >. Accessed January 31, 2003.

Crombie, Gail. 1999. Research on young women in computer science: promoting high technology for girls, Presentation made at the Annual meeting of the Professional engineers of Ontario, Women in Engineering Advisory Committee on May 1, 1999. < http://cythera.ic.gc.ca/htos/allfemalecs/ >. Accessed January 31, 2003.

Cybersolidaires. 2003. Cybersolidaires Web site. < http://www.cybersolidaires.org >. Accessed January 31, 2003.

Duque, Nina. 1998. Recherche sur les impacts des nouvelles technologies d'information et de communication dans les groupes de femmes du Québec: difficultés et potentiels. Montreal: Relais-femmes and Centre de documentation sur l'éducation des adultes et la condition féminine (CDEACF). < http://netfemmes.cdeacf.ca/documents/nticfemmes\_01.html >. Accessed January 31, 2003.

 $Industry Canada. 1998. \textit{The Canadian Electronic Commerce Strategy}, < \textbf{http://e-com.ic.gc.ca/english/strat/doc/ecom\_eng.pdf} >. Accessed January 31, 2003. \\$ 

Millerand, Florence. 1999. Les TIC et les femmes : Bibliographie critique annotée. Montréal: Relais-femmes and Centre de documentation sur l'éducation des adultes et la condition féminine (CDEACF). < http://netfemmes.cdeacf.ca/documents/bibliofemmes.html >. Accessed January 31, 2003.

Morahan-Martin, Janet. 2000. "Women and the Internet: Promise and Perils" in Cyberpsychology & Behavior, vol. 3, no. 5, October 2000, p. 683-691

Ollivier, Michèle and Ann Denis. 2002. Les femmes francophones en situation minoritaire au Canada et les technologies d'information et de communication, Ottawa: Fédération nationale des femmes canadiennes-françaises (FNFCF). < http://franco.ca/fnfcf/documents/fnfcf-rapport-final-tlcs.pdf >. Accessed January 31, 2003.

Organisation for Economic Co-Operation and Development (OECD), (1999). Understanding the digital divide. OECD Web site. < http://www.oecd.org/pdf/M00002000/M00002444.pdf >. Accessed January 31, 2003. A

Regan Shade, Leslie. 1996. Report on the Use of the Internet in Canadian Women's Organizations. Ottawa: Status of Women Canada.

Shortt, Denise. 2001. \*Broadening the Definition of IT\* in Its a Woman's Web. < http://www.globetechnology.com/woman/archive/20010412.html >. Accessed January 31, 2003.

Sutton, Jo and Scarlett Pollock. 2000. "Online Activism for Women's Rights" in Cyberpsychology & Behavior, vol. 3, no. 5, October 2000, p. 699-706.

Sutton, Jo and Scarlett Pollock. 1995-2003. "Internet Issues for Feminist Activists" on Womenspace Web site. < http://www.womenspace.ca/Campaign/SpeakOut/index.html >. Accessed January 31, 2003.

United Nations Division for the Advancement of Women (DAW). 2002. Information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women – Report of the Expert Group Meeting – Seoul, 11-14 November 2002. New York.

Williams, Peter, P. Huntington, and David Nicholas. 2000. "Women on the Web: Why the Internet may still be male dominated information system" in Online and CD Notes, vol. 13, no. 9, November 2000. London: Aslib IMI. < http://www.aslib.co.uk/notes/2000/nov/women/ >. Accessed January 31, 2003.

 $Women's \ Human \ Rights \ net \ (WHRnet). "Women \ and \ ICTs" \ on \ Women's \ Human \ Rights \ net \ Web \ site. < http://www.whrnet.org/issues_26.htm>. Accessed \ January 31, 2003.$ 

Womenspace. 2002. Women, "Communication Rights and the Internet" on Womenspace Web site. < http://consult.womenspace.ca/ >. Accessed January 31, 2003.

Womenspace. 1997. The Women's Internet Conference – Conference Proceedings – October 18-21, 1997. Scotsburn, Nova Scotia: Womenspace

Working Group 6 – Task Force on Gender Issues. 2000. The Task Force on Gender Issues: A Catalyst for Women's advancement in Information and Communication Technologies (ICTs). Geneva: International Telecommunication Union – Telecommunication Development Bureau (BDT) – 3rd meeting of the Task Force on Gender Issues. < http://www.itu.int/ITUD/gender/pdf/3rdMeeting/TFGI-3-9.pdf >. Accessed January 31, 2003.