"IT and the advancement of gender equality: international perspective"

Dr. John Mathiason

ABSTRACT

At the beginning of the Twenty-first Century, the world is in the middle of a revolution in the development and application of information technology (IT). Whether one speaks of high-speed Internet connections, wireless telecommunications or e-commerce, the new technologies have already changed our world. Borders have been eliminated, the possibility of free flow of information is now greater than ever before in history, the power of states to regulate information has been reduced and the capacity of civil society to use it has been increased. In principle, information technology is gender-neutral, as is usually the case with technology. However, there are gender dimensions in terms of access and use that can help or hinder progress toward gender equality.

Gender issues exist in access to technology. On the one hand, men have traditionally dominated the disciplines of science and engineering and, to the extent that this continues, the economic benefits of the new information economy will accrue to men and they will largely determine the content. However, in recent history, women have been able to make their strongest economic gains in new and emerging sectors, of which information is one of the most important. In that sense, the emerging economy based on IT is an opportunity for women to achieve equality.

The most important gender issues relate to use of the new technology. In the past, women could often feel isolated. Lacking an ability to acquire information or share it easily across borders, many of the issues of gender discrimination were not known. An example was violence against women, which became a known issue only when the pervasiveness of the problem was demonstrated. The idea that Sisterhood is Global was in many ways only a slogan until means were found to permit communication and sharing.

There is still much to be done. For historical reasons, women may not have as much background and access to the new technologies. There is a need to develop an infrastructure of information exchange and sharing. Some important initiatives have been taken by the United Nations and its organizations and these can help strengthen advancement of gender equality through the use of IT. An example is the significant project, GAINS (The Gender Awareness Information and Networking System), a "one stop" web-based electronic system. Other examples include international networks providing information on human rights and women or linking women in business and politics.

The free flow of information promised by the IT revolution can, if it is used properly, speed up the process of achieving gender equality so that it becomes one of the first global objectives to be achieved in the new century.

IT and the advancement of gender equality: international perspective

Lecture by John R. Mathiason
Managing Director
Associates for International Management Services[1]

At the beginning of the Twenty-first Century, the world is in the middle of a revolution in the development and application of information technology (IT). In terms of its effects and its velocity, it is probably the most profound change caused by technology in human history.

Here we are talking about the combination of technological improvements in telecommunications transmission based on fiber optic and wireless technologies that increase available bandwidth, and on the development of packet-switching technology that permits efficient use of the bandwidth. We are talking about technological advances in micro-chips that allowed the functioning of what was called Moore's Law, that the amount of information that could be stored on a microchip would double every 18 months. We are talking about the spread of personal computers and distributed computing, that allows every household to have the computing power that, only twenty years ago, only the largest universities or defense installations would have.

But we are mostly talking about the revolution in the availability of information and its uses, that have changed the way the world does business, communicates across borders. Its principal reflection is the Internet.

Whether one speaks of high-speed Internet connections, wireless telecommunications or e-commerce, the new technologies have already changed our world. I would like to take an international perspective on how those changes have affected the struggle for equality between women and men.

The International Context

Let me start by placing information technology (IT) in its international context. The underlying technology of the Internet, packet switching, means that information can travel over diverse channels. This means that it is difficult and probably impossible for governments to control its flow. Control of traditional telecommunications has been by way of the service providers or by controlling the channels, but in the Internet world this is not possible. As a result, there are no borders to the flow of information.

---

[1] Formerly Deputy Director of the United Nations Division for the Advancement of Women, 1987-1996.

In addition, information available anywhere in the world is available everywhere in the world. If an article is posted on the Web in Reykjavik, Iceland, it can be read in Punto Arenas, Chile in exactly the form it was posted and instantly.

This has implications for commerce. In theory, I could buy my kimono directly from the manufacturer in Japan rather than from a store in the United States. Already it is becoming commonplace to buy things over the Net. Our company has a number of computers, all of which were bought directly from the manufacturer over the Internet. All of our software is bought directly and even downloaded. One can buy used goods through on-line auction houses like e-Bay. The previous limitation that you had to know where to look to buy goods is gone: search engines can find almost anything on the Web.

We discovered the power of the Internet to remove barriers relatively early. My wife is severely disabled and it is difficult for her to travel. She is an internationally known advocate for the rights of persons with disabilities. In 1995, she was scheduled to attend the Fourth World Conference on Women in Beijing representing her organization, Disabled People's International, but just a month before she broke her leg and could not travel. Instead of despairing, she took the money from the airline ticket, bought a laptop computer, and went to Beijing by Internet. She read the daily summaries on-line and communicated with her colleagues by e-mail. Since then she has been active in promoting the United Nations Standard Rules for the Equalization of Opportunities for Persons with Disabilities by facilitating seminars and workshops. They have taken place in Bangkok, Hong Kong, Panama and Mexico. She has participated from Mt. Tremper, New York, using the Internet to be present.

The nature of the Internet has made international organizations more accessible. Before, to learn about what was happening at the United Nations, you had to obtain information from your government, or you had to go to the depository library in your country. The UN was distant and if your government didn't like what the United Nations was doing, or saying about your country, it could keep you in the dark by simply not providing information.

Today, all international organizations have web site and most of their documentation is posted and publicly available. If the United Nations Commission on Human Rights adopts a resolution about a country, citizens of that country can obtain copies directly, and not have to go through their governments. In the old days, if you wanted to apply for a post in an international organization, you had to do so through your government. Today, the jobs are advertised on-line and anyone can know about them.

This has also given a strong impetus to international civil society. They are able to organize and contribute to international discussions. This has been particularly important in the areas of environment and human rights, where the

work of organizations like Greenpeace and Amnesty International have been facilitated by their ability to exchange information over the Internet.

Now, in principle, information technology is gender-neutral, as is usually the case with technology. The technology is not affected by the sex of the user. Still, we have to ask, are there gender dimensions in terms of access and use that can help or hinder progress toward gender equality?

Gender and technology

Let me start by reflecting on what we mean by gender. Gender refers to the socially-ascribed roles given to persons on the basis of their sex. This means that they are not inherent in one sex or another, imprinted in our DNA. Rather, they are differences by sex that have emerged because of culture and experience. This means that these roles can change and be changed.

When we look at gender and technology, there is a mixed picture. The clearest difference has been in access to the technology itself. Information technology has been developed by scientists and engineers. For most of our collective lifetime, these have been professions in which there have been few women. In terms of roles, women were not supposed to be engineers. For much of history this was an absolute rule, although it is changing. Still, most of the students in engineering schools around the world are male. I have a niece who recently graduated from her university in Venezuela with a degree in electronic engineering. She was the only girl in her class and, of her classmates, has had the hardest time getting a job in her field.

Studies have found that one reason that girls do not enter science and engineering is that they have been discouraged in earlier education. Even so, studies in the United States are finding that girls are becoming as adept as boys, or more, in using the Internet. The Net itself is helping break down stereotyped values.

In other areas of the world, however, there is a gender-based digital divide. At a recent ASEAN Women Leaders convention in Singapore, it was stated that "Women may make up half the population, but they account for just 22 percent of Asia's 48 million Internet users." By comparison, women outnumber men online in the United States, while in Britain about 30 percent of online users are women.[2]

Indeed, there are some indications that, for certain tasks, like checking code, the skills and values that girls learn differently from boys, are more important. Still, efforts have to be made to encourage girls to enter science and technology.

---

[2] http://www.whrnet.org/news/june_13_01/asian.htm

A different gender pattern can be seen in what could be termed the "e-Commerce dimension" of IT. Despite the collapse of the "dot com" boom in world stock markets, there is no question that in the future a significant part of the global economy will be e-commerce. While most companies in the world, especially the large ones, are still run by men, this is an area where women bring some critical experiences into play.

When I was directing the preparation of the 1994 World Survey on the Role of Women in Development, one of the issues was the consequence of globalization for women. The conventional wisdom of the time was that women would be victims of the developments, as had often occurred in the past. When we looked at what was happening, however, we detected something quite different. Growth was taking place in sectors that were non-traditional, like services, rather than in manufacturing. The service sector was where women were particularly strong. Growth was also taking place where an important quality was an ability to be flexible.

We observed that in most industrialized countries, men followed a particular occupational path. They completed their schooling and then entered into a career that was essentially bureaucratic, moving from lower levels to middle management, before they retired. If, due to the economy, they had to change that pattern, they coped very badly.

Women, in contrast, were used to moving in and out of the labor market. They were quite content to work at home, or part time, and had communication skills that allowed them to work at a distance. Our conclusion was that the globalization trends, especially in IT, were a real opportunity for women, who could take advantage of the technology and innovate.

One example is eBay. One of the founders and its current CEO is Meg Whitman, a woman who had worked in the middle ranks of businesses and who saw the potential of organizing what is called peer-to-peer trading. In some ways, eBay is like a big yard sale, where people find goods that they need from persons who no longer need them, at a reasonable price. In some ways, that is a very "feminine" approach to marketing. Making such an innovative organization work has taken considerable skill. Ms. Whitman, in a self-appraisal posted on the eBay website, states that her

> Most valuable contribution to eBay team: Develop the work ethic and culture of eBay as a fun, open and trusting environment. Keep the organization focused on the big-picture objectives and key priorities.[3]

---

[3] http://pages.ebay.com/community/aboutebay/overview/management.html

Very feminine values. That is the good news. The bad news is that of the nine senior managers of eBay, all the rest are men.

But one of the sea changes that is occurring in the IT economy is that smaller sized enterprises are becoming more important and even dominant, aided by the ability to communicate. More than half of these enterprises in the United States, for example, are owned or headed by women. According to estimates of the Small Business Administration of the United States Government,[4]

> Based on current calculations using the latest data from the Census Bureau, SBA's Office of Advocacy estimates that there are 9.1 million women-owned firms today, employing 27.5 million people and contributing $3.6 trillion in sales and revenue to the U.S. economy.

There are similar trends in Asia and the Pacific. One study noted that[5]

> In Asia, 35% of SMEs are already headed by women.[14] In China, women account for 25% of all new business starts.[15] In Japan, the percentage is much higher—now four out of five Japanese small businesses owners are women. Women entrepreneurs in Asia are significant engines of economic growth.

Why should that be? In most countries, women leave the workforce temporarily to have children. It is not easy to do so in industries that require a bureaucratic career pattern. Many, therefore, increasingly choose occupations that give them a necessary flexibility. It is this flexibility that characterizes the IT economy.

Will women be able to take advantage of these opportunities? That is a question that needs to be addressed to government policy makers, to the private sector and to women themselves. Public policies that encourage small- and medium-sized enterprises and level the playing field for women can help. Private sector businesses recognizing that women's experience is particularly apt for the IT economy can help. But it may depend more on women realizing their own potential and using it.

Virtual Sisterhood is Global

Using the new technology to realize potentials is probably the most important gender element. The Internet allows people in diverse locations to join together and share information.

---

[4] http://www.sba.gov/womeninbusiness/welcome.html
[5] Rosemary Briscoe, Turning Analog Women into a Digital Workforce: Plugging Women into the New Asia-Pacific Economy, White Paper Presented at the World Economic Forum, Asia Pacific Economic Summit, September 2000.

Advancement of women at the global level was never powered by governments that were mostly in the hands of men. Rather, it was non-governmental organizations – what we now call civil society – that pushed for equal rights. It took a long time for the activities to bear fruit, not the least because communication was so difficult.

Absent communication, important issues were suppressed for many years. A case it point was violence against women. In 1975, at the first United Nations Conference on Women in Mexico City, it was expressed as "intra-familial conflict." By the Nairobi Conference in 1985, it was identified as a problem, but was considered to be an issue of "battered women." It was only when information exchanges documented the extent of the problem that needed a strong, immediate public response. If we had had the Internet before, the problem would not have remained hidden.

At the time of the Mexico City conference, the phrase Sisterhood is Global was coined. It reflected a belief by the advocates for equality that if women across the globe could share experiences and communicate, they would find that issues and responses to them were common. They would allow women with less access to power, to education and to the economy to be supported by their better-off sisters. But until the information revolution, it was only a slogan, in many ways.

The Information Revolution allows women to link with each other, share experiences and develop common approaches. Let me mention three examples.

The United Nations has played a major role in advancement of women, articulating issues at a global level and bringing together information from diverse places. One of the first innovations after the Beijing Conference was to establish the website WomenWatch. Going to that site at http://www.un.org/womenwatch a person can obtain information about the issues with which the United Nations is seized. It is a jointly sponsored site, with the United Nations Division for the Advancement of Women, UNIFEM, INSTRAW, UNDP, UNIFEM, UNESCO and the World Bank as major partners.

On the site one can obtain directions to how the international organizations are addressing issues of gender equality.

Another example shows what civil society can do. After Beijing a number of non-governmental organizations banded together to create the Women's Human Rights Net. The site at http://www.whrnet.org/home.htm is a cornucopia of information, but goes beyond that. It includes on-line forums where individuals can exchange information and views. The express purpose is to allow individuals to engage in dialogue with activists from all over the world. Among the issues on which there are forums are ICT in Africa, governance and politics,

gender and violence, among others. The site is in English, French and Spanish, which increases its accessibility to the non-English-speaking world.

A third example is also from the United Nations. In 1999, the United Nations International Institute for Training and Research for the Advancement of Women was in crisis. Its funding had declined, most of its staff had left and some wanted to close it down. INSTRAW undertook a major self-assessment and decided to completely refocus its work using the Internet. Located in Santo Domingo, the Dominican Republic, INSTRAW had, for years, been considered to be geographically marginalized. Its new mandate is[6]

■ To EMPOWER WOMEN through information, research and training, and networking using new technologies.

■ To SUPPORT WOMEN in becoming global players: bringing them closer to and widening their involvement in decision-making at all levels using ICTs.

■ To CLOSE THE GENDER GAP IN ICTs by providing a dedicated electronic research and training centre to facilitate women's entrance into information society - to GAIN lost ground.

INSTRAW set up a system that they call GAINS, the Gender Awareness Information and Networking System. It will stimulate, coordinate and disseminate research on gender issues worldwide.

These three examples show how the Internet can be used for advocacy, and there are many more. The issue is, how to make all of these work for achieving gender equality?

What is to be done?

There is still much to be done. For historical reasons, women may not have as much background and access to the new technologies. Women who have already left school carry with them the remnants of past discrimination, when women were discouraged from pursuing careers in technology or were told that they lacked the necessary aptitude. For the next generations of women, this can be addressed by ensuring that the education system treats boys and girls equally and by making special efforts to reinforce girls' interest in technological issues. For women already mature, it should be a matter of developing resources where they can make up for lost time, learning about technology and information through courses and special programmes. One thing that women have demonstrated repeatedly is that they have the capacity to re-educate themselves.

---

[6] http://www.un-instraw.org/en/instraw_gains/what_is_gains.html

The new technologies can assist in this. Distance learning, where persons take courses and seminars over the Internet without having to travel to a university, is becoming more common. For example, I teach a course at the Maxwell School of Citizenship and Public Affairs of Syracuse University on International Public and NGO Management. Syracuse is a three-hour drive from my home in the Catskill Mountains. Rather than traveling, I give my course from Mt. Tremper, using a combination of Website and Internet chat.[7]   Some of my students are in Syracuse, but others have been in Washington, DC, New York City, Boston, North Carolina, Santiago de Chile and Accra, Ghana.

One option for organizations concerned with eliminating the digital divide based on sex would be to develop training courses and use distance learning techniques to enable persons to take them. Our company has done so on several occasions, most recently in a seminar on Internet Accessibility in the Latin American Region.[8]

A second issue is access. The Internet is a phenomenal resource, if you can get to it. To use it, you have to have access to a computer that is connected. In many countries, like Japan, these are very accessible. But they are not always affordable. That depends in part on the charges made by telecommunications companies for Internet connections, and partly on disposable income. One option that is increasingly being promoted is to locate terminals in public places like libraries. Another is for organizations promoting gender equality to acquire terminals and make them available to their members.

There is a broader issue of access, of course, in that global telecommunications have often left developing countries behind. The average telephone customer in the United States and Japan probably has more bandwidth than the largest university in Mali. It is in the interest of all developed countries to promote the expansion of communications infrastructure, whether by cable, satellite or wireless, to developing countries. For those concerned with advancement of women, assistance to organizations in developing countries is an important investment.

There is also an issue of language. The Internet is overwhelmingly driven in English. This is a consequence of our times, but it can be a means for disenfranchising many women. It is important to begin to develop sites that work in the language of the people that are to be reached. The hardware technology of the Internet precludes no language, but efforts have to be made to overcome the "software" problem.

---

[7] The course can be seen at http://classes.maxwell.syr.edu/intlmgt
[8] The seminar can be seen at http://www.worldenable.net/mexico2001/indexes.htm. Worldenable.net is a site that our company maintains together with a Canadian partner to disseminate information on the rights of persons with disabilities.

Perhaps the most important thing to do, however, is for women, individually and through their organizations, to decide to take advantage of this remarkable technology. It is a matter of applying the creativity that women normally possess to finding ways in which information can promote the cause of equality.

The free flow of information promised by the IT revolution can, if it is used properly, speed up the process of achieving gender equality so that it becomes one of the first global objectives to be achieved in the new century.