

# Chapter 6

## Women in Information Communication Technologies

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### INTRODUCTION

Individual participation in the information economy is affected by a large number of variables such as education, skill, income, race / ethnicity, language, gender and disability (OECD, 1999). Some of these variables such as education and skill are considered legitimate in most countries, while other variables based on arbitrary criteria such as gender, race and disability are viewed as illegitimate in a growing number of countries. Employment in the Information Communication Technology (ICT) sectors around the world has

also been affected by gender discrimination and stereotyping practices.

The concept of technology gained popularity in 1950s and it has traditionally been associated with men. Technology was usually assumed as to be men's work and most definitions reinforce such a masculine ideology (Eriksson-Zetterquist, 2007). Most feminist historians and sociologists of technology have emphasized strong alignments between technology and masculinity especially in the area of engineering (Oudshoorn et al., 2004; Kusku et al., 2007).

The number of female workers has been gradually increased in the field of ICT. However, the number of women users of ICT is not growing at a sufficient pace to allow women to influence the

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development of ICT. Thus, recruiting and retaining more women in ICT profession or making the ICT work environment more welcoming for women is still a significant challenge in industrialized societies (Faulkner&Lie, 2007).

In this study women's attendance to ICT field and the qualifications (fundamental capabilities and training) which they need to get into the sector are discussed in the light of the pertinent literature. Drawing on interdisciplinary insights, this chapter questions the implications of numerical feminization in the context of gendered cultures and processes of work in the information technology (IT) sector, and proposes some directions for future research.

## **WOMEN IN ICT SECTOR**

After the information technology boom in the 1990s, an extremely high demand for IT workers occurred in the United States (Little, 1999; Forson&Ozbilgin, 2003). There was an increase in the number of women using Information Communication Technologies (ICTs). But the same cannot be said for the *working* women in ICT professions. It is possible to have an optimistic view when we talk about women *and* ICT (women as users), but the pessimistic view becomes more dominant when we talk about women *in* ICT (women within the ICT professions) (Faulkner&Lie, 2007).

Women account for about 25% of technology workers in the European workforce, and about 20% in the United States workforce. While the majority of women are employed in routine and speciality requiring work fields, men are engaged in analytical and managerial fields. Also only 5% of upper management posts in IT industry are held by women. Unfortunately, the pace is changing rather slowly in women's access to jobs in ICT sectors (US Department of Labor, 1975–1990).

There are several pioneering women professionals in the history of IT. For example, 150 years ago Ada Lovelace developed the conceptual

framework for programming; 60 years ago six women programmed the first electronic computing machine, the ENIAC; 50 years ago Grace Hopper developed the first compiler. But today, only a small proportion of highly paid and interesting jobs are held by women in this sector (Gutek, 2006).

Although there is a tendency to consider gender as a minor issue in adoption of technology, access and use of computers; today there is recognition that engagement with ICT is still gendered in several ways (Selwyn, 2007). In other words, despite earlier suggestions that IT would be less sex-typed than other sectors, today we can see that IT is as sex-typed as other traditional sectors (Gutek, 2006).

## **REASONS FOR UNDER-REPRESENTATION AND GENDER DISCRIMINATION IN IT SECTOR**

IT is a male-dominated industry and most of the high technology oriented people are male (Horigan, 2007). In other words, women are under-represented in IT field (Allen et al., 2006). This sector also suffers from a class divide between highly sought after knowledge workers and highly dispensable temporary workers, and women are placed at the lower proletariat end of the spectrum in the sector, so this class divide is also gendered (Gutek, 2006).

In most countries of the world, men outnumber women in science, technology, engineering and mathematics (STEM) fields (Lee, 2002). Some scholars have attempted to provide human capital arguments for under-representation of women in the sector. For example, Little (1999) argued that computer science demands mathematical skills which women are less qualified. Some scholars even revert to essentialist arguments about gender differences in terms of knowledge, skills and abilities and argue that, women do not possess requisite mathematical and spatial abilities in order to be successful in the field of IT. However, essentialist

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