

# Pushing and Pulling Women into Technology-Plus Jobs

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## INTRODUCTION

This article discusses the causes and implications of an empirically observed tendency to channel a disproportionate number of female computer professionals working in IT companies into what we term *technology-plus* positions. Technology-plus positions are positions requiring technological knowledge and skills but also containing a significant “non-technological” component. The most common such positions are project and group management, but also some sales/business development tasks, technical and specifications writing, and positions entailing substantial client contact can also be included in this category. Channeling a disproportionate number of female computer professionals into technology-plus positions is seen as evidence of gendered “segregation”<sup>1</sup> at the occupational sub-specialization level in the high end of the IT industry. This process is primarily based on horizontally differentiated positions and tracks rather than vertically hierarchical positions, though as argued below, a particular status hierarchy plays a central role in this process. Space constraints mandate sacrificing depth for breadth in making the argument here (see also Davies & Mathieu, 2005).

## BACKGROUND

Studies on occupational segregation in the IT industry have documented the general gap between men in the upper and women in the lower echelons of the industry (Millar & Jagger, 2001; Pantelli, Stack, Atkinson, & Ramsey, 1999). Less attention has been paid to differentiation and segregation processes among computer professionals in its higher reaches. There are notable exceptions. Wright (1997) has quantitatively studied the issue in the U.S., concluding that some, but insufficient inroads have been

made. Wright and Jacobs (1994) strike an optimistic tone regarding the prospects for sex integration, noting that males are not fleeing the occupation as more women move in. Fondas (1996, p. 284) shares this optimism. Woodfield (2000), however argues that sex-integration of the branch has been optimistically foreseen in three periods in the comparatively brief history of computing, but never realizing the optimistic projections. Some qualitative research has also been conducted in the field. Woodfield’s (2000) case study in England found that even in an organization with progressive gender policies and that praises hybrid skills, men were still systematically advantaged and advanced past women. Tierney’s (1995) study of an Irish software unit displays how the informal contacts between senior and junior men in the organization open avenues for advancement via informal access to information and currying favoritism based on in-group membership revolving around selectively male interests (football, drinking). In national statistics and four case studies, Pantelli et al. (1999) also find evidence of barriers for the advancement of women in the Scottish IT sector, with few women moving into management. To a certain extent, we find the same with regard to *senior* management. However, we found a different phenomenon at the middle management level—where women were consciously moved into technology-plus positions.

The empirical conclusions presented here derive from a research project on sex and gender equality/inequality in the IT sectors of Sweden and Ireland carried out from 2001-2004.<sup>2</sup> A total of 84 interviews were conducted with male and female employees and managers in eight companies in Sweden and five companies in Ireland. All but one of the companies fall into the NACE 72 category and ranged in size from seven to several thousand employees. In another part of the study, a total of 49 telephone-interviews were conducted with two cohorts of

women who had studied computer science at a major Swedish university in the early and mid-1990s. The qualitative career choice and career history data was used to uncover processes and mechanisms which lie behind outcomes that are often construed as “free” choices (see Bertaux & Thompson, 2003; Evetts, 1993; Reskin, 2000, 2003).<sup>3</sup>

## **WOMEN IN TECHNOLOGY-PLUS POSITIONS: THE EVIDENCE**

National occupational statistics are not sufficiently differentiated to see if observations from our companies are representative for the branch as a whole in Ireland and Sweden. This is because the technology-plus positions that actually are *positions*, such as group, unit, or line manager are often grouped together with other comparable positions for statistical purposes, and that others are *roles* or *functions* within a broader undifferentiated category, such as project leaders among “computer specialists.” Even when statistical material is available down to the *positions* of group and project leader, the “lack of a standardization of job titles in IT” (Pantelli et al., 1999, p. 173) makes comparison difficult.

Evidence for the preference for and actual over-representation women in technology-plus positions comes from three sources in our study. First, our Irish and Swedish informants, male and female, employees and managers, reported an over-representation of women in technology-plus positions in their companies and in the branch general. A corollary to this is when asked if men and women tend to move into the same or different specializations, it was stated that women tend to move into project or group management, and seldom if ever into leading-edge technical specialist positions.

Secondly, data we collected about employees, titles, jobs and from organizational charts corroborated our informants’ observations. Group leadership in Sweden was distributed fairly consistently on a 50-50 basis in Sweden (compare with a general presence of women in these companies at about the national average of 25%); while in Ireland it was slightly less. Project leadership appeared as both a formal *position* and a *role* and thus was more difficult to gauge, but the rough estimate in our

companies ranged from 40-60% women, significantly higher than the proportion of women in qualified computer jobs in the companies in general.

The third piece of evidence is the rhetorical support for the recruitment and “appropriateness” of women in such positions. A characteristic comment was made by a female Irish engineer by training, currently working as a project staffer: “To be honest, what I’ve seen here [at company X] is that women are much better at project leadership than men are... Because project leadership requires you to be very disciplined and organized... women are more systematic. If you look here most of the women here are project leaders. They [senior management at company X] like women to do project leader roles.” The “fit” between women and technology-plus roles is based on “matching” skills associated with central tasks in these roles with certain basic characteristics commonly ascribed to men and women. In addition to the culturally based notion that women have better “soft” or communication skills, a number of more specific attributions were ascribed to women—having a holistic orientation; a client/user’s perspective; being more systematic and organized and preferring simple, functional solutions to “technological overkill;” and men—jumping into solving particular problems without seeing the “big picture,” being oblivious to client/user needs, and being so fascinated by technology that “the more sophisticated the better” was the guiding theme in their work. It was also contended that women tolerated ambiguity or “fuzziness” better.

## **WOMEN IN TECHNOLOGY-PLUS POSITIONS: SEGREGATION, INTEGRATION, FEMINIZATION?**

Following on the point made directly above, technology-plus positions are conceptually *feminized*, but empirically or de facto integrated, as there are roughly as many men as women in such positions. This may be due to the fact that some males are attracted to such positions, or the relatively low number of women in the branch, but it shows that despite the conceptual feminization of these positions, males are not denied access to these positions. Technology-plus is constructed as feminine but it is

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