ACM's Attention to Women in IT

Orit Hazzan
Technion – Israel Institute of Technology, Israel

Dalit Levy
UC Berkeley School of Education and The Concord Consortium, USA

INTRODUCTION

The Association for Computing Machinery (ACM) is a major force in advancing the skills of information-technology professionals and students worldwide. It was founded in 1947, and today has about 80,000 members. This article summarizes how this organization views the issue of women's participation in the hi-tech field. As it turns out, though the topic is addressed extensively in the association's newsletters and reports, women representation in these fields remains low.

BACKGROUND

This article reviews *ACM TechNews*, an e-mail newsletter that provides timely information to IT professionals 3 times a week and is directed toward the wider membership of the ACM, one of the larger associations of people working in the computing fields. Each message sent to the list consists of about 10 to 15 short news items based on articles published in various hi-tech and computing magazines and journals. The short messages refer interested readers to the full articles.

We found it interesting to survey the news published in the messages sent to this list since the items are selected from the vast body of material published in the computing field according to their relevance to the majority of the community. Thus, news published in these digests reflect, in a way, the issues this community is concerned with and conceives as important.

As it turns out, the ACM community finds the topic of women in the computing fields to be highly interesting. During the past 5 and a half years (January 2000 through May 2005), 164 messages out of some 850 that were sent to the list contained a news item related to women. For illustration, during the first 4 months of 2005, 22 messages out of 43 messages sent to the list included a news item about women. This picture clearly indicates that this community finds the topic of women in the IT fields interesting. However, as we illustrate later, most of the news address, from different perspectives, the underrepresentation of women in the IT fields.

MAIN THRUST OF THE ARTICLE

This section presents the picture revealed from our review of *ACM TechNews*. Here is one example, taken from the April 20, 2005, newsletter, of how a news item appears on the list. Out of 19 news items, the 15th item was the following one.

- **What IT Women Want:** *A virtual roundtable of successful businesswomen moderated by Kathleen Melymuka discussed the challenges faced by women in IT and what recruiters and employers should do to attract and retain them. Scites Associates President Jan Scites said "the fundamental issue for women is that very few ..". [read more]*

The "read more" link refers the reader to an expansion of this short description, in this case to http://www.acm.org/technews/articles/2005-7/0420w.html#item16.

At the end of the expanded description, there is a link (indicated by the phrase "Click Here to View Full Article") to the original article, which in this case is located at http://www.computerworld.com/careertopics/careers/story/0,10801,101088,00.html. News items that address women in the IT professions also include the following note: "For informa-

tion on ACM's Committee on Women in Computing, visit http://www.acm.org/women."

In what follows, we survey the central women-related topics of news items that appeared in the *ACM TechNews* newsletters. We also add our perspective on these issues. The URLs (uniform resource locators) that refer to the ACM newsletters are presented in the footnote, and the full reference appears in the reference list.

As hinted previously, one of the main issues addressed in the ACM news digest with respect to women in IT is their low representation in the field. According to the Commission on Technology, Gender, and Teacher Education, the female portion in the IT workforce in the United States has shrunk from 40% to 20% in the last 15 years (Raimy, 2002).[1] This phenomenon is called the "shrinking pipeline" (Camp, 1997).

Similar findings were presented by the U.S. Bureau of Labor Statistics (Clements, 2002).[2] In 2003, women accounted for half of the workforce in the United States, but for only 20 to 25% of the technology professionals in that country (McCarthy, 2003).[3] A more recent report from the Information Technology Association of America shows a severe decline in the percentage of women in the IT workforce. Women held just 32.4% of IT jobs in 2004 in general, a proportion that represents a 41% drop since 1996 (Wong, 2005).[4] To summarize, in IT fields, the percentage of women fell by about half between 1985 and 1995 to just 20% (Kimberly, 2005).[5]

Although women hold about 20% percent of all IT positions, reports the American Association of University Women[7], only few women hold upper level management positions. Liz Ryan, executive director of WorldWIT (Women in Technology), an international Listserv for women in the IT field, says women still confront a "slow, uphill climb" in the industry. She says the dot-com culture was a step backward for women in some ways because of the mentality that reigned at many dot-com startups (Solomon, 2000).[6] Women working their way up through the IT ranks must struggle with gender bias, cultural stereotypes, and male misconceptions that women know less about IT than men (Hogan, 2001).[8]

Different reasons are presented as explanations for the low representation of women in the IT workforce. Here are three of them.

- **Stereotype:** It has been suggested that the low representation of women in IT results from the "geeky" image of IT workers that discourages women from pursuing tech careers (Ascierto, 2003).[9] Different attempts worldwide made to attract more women to the IT industry show that the field offers creative careers that provide social interaction and make a difference in the real world. This approach is based on the assumption that women prefer professions that involve human interaction.
- **Male Dominance of the Culture and of Networking, and the Need to Adjust to This Culture:** It is sometimes argued that the IT field is a male-dominated computing culture, and that extroversion and the unabashed promotion of one's own accomplishments are signs of intelligence, whereas the low-key, self-effacing approach that women tend to use indicates a lack of achievement (Applewhite, 2002).[10] In order to succeed and gain credibility in such an environment, women must sometimes engage in male-oriented activities (Messmer, 2003).[11] It is suggested that the agile approach toward software development (Cockbum, 2001), which recently got a lot of attention in the software industry and is largely based on communication and teamwork, may fit to women's working and management style (Hazzan & Dubinsky, in press).
- **Family-Career Conflict:** Women sometimes find it too difficult to juggle work and family (Czetli, 2003).[12] This idea is illustrated in another contribution to this encyclopedia (Hazzan & Levy, in press). In that article, we present the perspective of female software engineers in the Israeli hi-tech industry by describing six typical profiles that emerge from the analysis of our data. One reoccurring theme related to all these profiles is the family-career conflict.

In addition to the decline in the overall numbers of women in the IT fields, the ACM community discusses through its *TechNews* publication other gender-related issues. Here, we mention three topics that are frequently addressed in the ACM digest: exit rates, executive positions, and salaries. Then we highlight the topics from an international perspective

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