Support Structures for Women in Information Technology Careers

Ruth Guthrie, California State Polytechnic University, Pomona, USA
Louise Soe, California State Polytechnic University, Pomona, USA
Elaine K. Yakura, Michigan State University, USA

ABSTRACT

This paper examines issues of support for women with Information Technology (IT) careers. Data was collected from interviews with 38 women, which lasted about 90 minutes. Questions were open-ended regarding aspects of their careers and career paths. The women represented a wide variety of experience and nine different industry sectors and at varying organizational levels. Research on the lack of women in STEM disciplines focuses mainly on undergraduate education and attracting women to STEM disciplines, focusing on “filling the pipeline.” This paper examines what it takes to have a successful, satisfying career, highlighting areas of support for women that may influence their success in IT careers.

Keywords: Information Technology and Gender, Information Technology Careers, Information Technology Profession, Mentoring Women in Information Technology Careers, Support for Women in Information Technology Careers, Women in Computing

Women are underrepresented in Science, Technology, Engineering, and Mathematics (STEM) disciplines and in Information Technology (IT) careers. Many attribute this to a lack of women seeking degrees in technology-related disciplines, a phenomenon which has been dubbed the ‘pipeline’ problem. The ‘pipeline’ problem, of women not selecting technical majors, is well documented (Blickenstaff, 2005; Camp, 1997; Soe & Yakura, 2008). Mitigation strategies have resulted in changes to IT academic curricula, the establishment of mentoring and role model programs, as well as the development of women’s networking programs to reduce feelings of isolation among women. The assumption is that if IT curricula are more accessible to people without programming backgrounds, more women may be attracted to the discipline (Sloan & Troy, 2008). Courses that are not focused on technology for technologies’ sake, but that take into account the context and implications of technology, may better attract and retain women students (Stiller & LeBlanc, 2003). Mentoring programs and anti-isolation programs help to support women in IT academic and professional careers (Simard, Henderson, Gilmartin, Schiebinger, & Whitney, 2008). However, even with these widely-promulgated efforts to attract and retain women, DOI: 10.4018/jep.2011010103
the number of women in IT careers is at an all
time low.

The Information Technology Association
of America reported that in 1996, women made
up 41% of the IT workforce. In 2002, the number
dropped to 34.9% (Hollis, 2003). An NCWIT
report (Ashcraft & Blithe, 2009) indicated that
in 1991, 36% of the IT jobs were held by women
and that that percentage has steadily declined
to 24% in 2008. The NCWIT report also noted
that women seem to face a mid-career ‘fight
or flight’ moment, in which many of them opt
out of the IT profession. This is despite the fact
that 74% of them were highly satisfied with
their careers.

Many researchers in the areas known as
STEM or SET (Science, Engineering, Technol-
y) education have focused on the reasons
for the dearth of women in these disciplines,
either as students or faculty (Bystydzienski &
described the myriad approaches, from many
different disciplines, employed to study the
problem, and explained that the reasons for the
under-representation were very complex. In ad-
dition, Guzman, Stam, and Stanton (2008) noted
that IT has a distinct occupational culture. Thus,
while IT careers are similar to SET or STEM
careers, they cannot be assumed to be identical.

In research on women and IT careers, the
issue of “opting out” by women who have
successfully navigated finding an IT job is an
interesting one. Some researchers explained
the opting out of IT careers as the decision of
women to start families (Armstrong, Riemen-
schneider, Allen, & Reid, 2007). Other studies
demonstrated that men and women differed little
in why they were attracted to IT careers or what
factors they valued if they persisted in them
(McKinney, Wilson, Brooks, O’Leary-Kelly,
& Hardgrave, 2008; Kuhn & Joshi, 2009). In
an interview with ComputerWorld (Melymuka,
2005), Dorie Culp explained women’s attrition
by saying, “Our research shows that work/life
balance is an excuse women give when they
leave so they can leave gracefully. But the real-
ity of why they leave is the culture the way it
marginalizes women.”

Faulkner (2007) similarly addressed these
issues for women in engineering, asserting that it
was not the socialization of women that needed
to change, but rather the discipline that needed
to change so that women are not devalued. In
her ethnographic study of engineers in a build-
ing design engineering consulting company,
Faulkner (2007) described in detail how en-
gineering professional identities and practices
conform to (and not conform to) understandings
of gender: “Thus, many men engineers cleave
to a technicist engineering identity because it
feels consistent with versions of masculinity
with which they are comfortable” (p. 350).
Faulkner (2007) argued that engineering culture
can and should change, and that

“Engineering as a profession must find ways
to foreground and celebrate heterogeneous un-
derstandings of engineering and heterogeneous
engineering identities” (p. 351).

Several empirical models examine the
motivations of IT professionals. Schein (1990)
introduced the concept of career anchors, and
identified ten anchors that could describe
people’s motivations and decisions in their ca-
reer choices. IT scholars adopted this model to
investigate the issue of motivation for technical
work, finding several different and conflicting
results. The number of motivators and their
importance to IT professionals varied. Crepeau
(1992) found that career anchors were indepen-
dent of each other and that lifestyle and creativity
were not relevant to IT professionals. Sumner,
Yager, and Frankie (2005) found four relevant
career anchors: creativity, autonomy, identity
and variety. Attempts to understand the differ-
ences through clustering of the anchors created
several more taxonomies of career motivators,
particularly focusing on what women want
(Ferratt, Enss, & Prasad, 2006; Ituma, 2006).
Quesenberry and Trauth (2007) examined
women in IT careers, and found that women
had very different career anchors depending
upon their individual context and that over time,
women’s career anchors changed. Later studies
by Trauth and Quensenberry (2008) examined
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