INTRODUCTION

There is a considerable body of research to support the longstanding problem of a gender imbalance in the ICT industry (Ahuja, 2002; Baroudi & Igbaria, 1994; Cukier, Shrott, & Devine, 2002; D’agostini, 2003; Frenkel, 1991; Moody, Beise, Woszczynski, & Myers, 2003; Nielsen, von Hellens, & Wong, 2000; Nielsen, von Hellens, & Wong, 2001). However it appears there has been little attempt to draw it together to inform the influences and impacts that many women face when employed in the industry. The objective of this article is to examine research focussing on two factors that have impacted on the experiences of women who have established careers in the ICT industry.

GENDER IMBALANCE IN THE ICT INDUSTRY

The authors conducted a search of the literature related to gender imbalance in the ICT industry. From this, it became apparent that the existing body of literature consistently identified a number of elements as representing the existing state of ICT workplaces. It is possible and perhaps probable that some of these elements are conspiring to influence the:

1. Cultural factors typically encountered in ICT workplaces
2. Collective identity of women employed in ICT workplaces

Cultural Factors

In reviewing the gender related ICT literature, an image of the tensions that are at work and could influence and impact on women working within the industry emerges. These factors are, in general, subtle. However, they do make a contribution to enhancing understanding by highlighting potential relationships between social pressures to identify reasons and solutions relevant to the current situation within the industry.

Dominant Male Culture

The idea of ICT as a male dominated industry characterised by masculine language and modes of operation is evident from the literature (Pringle, Nielsen, von Hellens, Greenhill, & Parfitt, 2000; The Women in Science Engineering and Technology Advisory Group 1995). A sense of a shared masculine ownership of the science and technology sector as a whole pervades with the result women can feel marginalised and isolated. One outcome of this is a perception that senior men in industry favour males coming in and regard females almost with suspicion and even derision.

The notion of the IT sector as a male domain has conspired to perpetuate a culture of long working hours and masculine language. von Hellens, Nielsen and Trauth (2001) found that while many women did not see IT as an inherently male domain, they reported situations where they had been challenged as a consequence of their sex. In addition, it was noted that many women do leave IT workplaces if they are unable to deal satisfactorily with male domination. Those who remain can be subjected to inappropriate language, advances and stereotyping.
Competitive Atmosphere

Women working in ICT are constantly confronted by the competitiveness of men in presenting themselves and promoting themselves. The preference of women for connections rather than competition may contribute to the levels of discomfort generated within the competitive environment (Lind, 2000). Men can be aggressive and arrogant in the way they compete and reluctant to admit making mistakes or not knowing something. Women tend to find this approach confronting and a challenge to their self-confidence. In general, they tend to have less confidence in their abilities and may be less likely to attempt new activities or activities that are considered challenging. This can have a detrimental effect as it often precludes women from opportunities to demonstrate themselves in a positive light in the work situation. Since these characteristics are valued within the male culture women are disadvantaged as a consequence (Teague, 2000; Cuny & Aspray, 2000).

Demographics of Women in IT within Organizations

As a group women working in ICT workplaces have less organizational tenure, less job tenure and are younger than their male colleagues. Few women hold senior management positions in the sector (Ahuja & Rodlain, 2000; Baroudi & Igbria, 1994; O’Neill & Walker, 2001; Pringle et al., 2000; Trauth, Nielsen, & von Hellens, 2000). Results from the Association of Professional Engineers, Scientists, and Managers, Australia (APESMA, 2002) survey showed that in the Australian computer profession women outnumbered men in levels 1 and 2 of responsibility and that their representation began to decrease at levels 3 and 4 of responsibility. Further at the higher levels of responsibility (5 and above) men outnumbered women almost to the extent of two to one (APESMA, 2002). In addition often when women achieve seniority in job title this is not reflected in the opportunity to participate in critical IT decision making in the organization and team leadership (Panteli, Stack, & Ramsay, 1991). The exclusion of women from IT management ranks has implications for their career options and probability of better remuneration (Truman & Baroudi, 1994). The distribution of women throughout middle and lower levels in the industry is significant. Panteli, Stack, and Ramsay (1999) reported that even though they might share the same positional role and title as men, women are not engaged in the same projects. Women are more likely to be engaged in administrative functions (O’Neill & Walker, 2001) or in low status specialities such as merging and tidying databases (Pringle et al., 2000).

Effect of Gender Traits

From the literature, it has become apparent that some researchers have concluded that there are specific gender traits and that the existence of these traits impact on the manner in which women assimilate into ICT workplaces. Venkatesh and Morris (2000) explored gender traits in ICT and suggested that men were interested in how useful technology was while women were interested in how easy it was to use. Another gender trait they identified was that women, more so than men, are influenced by peers and others when making decisions to use technology. Women also have a greater need to belong to a group, a greater interest in personal goals and were more responsive to the needs and feelings of others.

For those women who have already chosen to work in ICT workplaces Holmes (1998) found that while men and women do not differ appreciably in relation to many of their work goals, men consider high earnings, variety and advancement as more important than women. Ahuja (2002) has suggested women make choices that see them placed in positions and professions considered female friendly and offers that this may be occurring because of the diversity of roles that women fulfil during their lives. Generally, women prefer a greater balance in their lives.

Balancing Work and Family Commitments

Many women successful in the ICT industry appear to have sacrificed family for work. Even where arrangements exist for women to access flexible working arrangements there is a tendency not to do
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