

# Gender Identity, the Culture of Organizations, and Women's IT Careers

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## INTRODUCTION

The decreasing number of women in information technology (IT) programs and careers has received increasing attention over the last decade (Arnold & Niederman, 2001; Camp, 1997; Cukier, Shortt, & Devine, 2002; Klawe & Leveson, 1995; Niederman & Mandviwalla, 2004). The proliferation of technology innovations over the last 20 years has made the computer less of a mystery to the general public and placed it in a more prominent place in both the office and home. The integration of networks and the placement of the personal computer as a new artifact in society has signaled both cultural as well as technological changes for the future (Woodfield, 2000). However, bigger transformations are yet to emerge. The future efforts of technology will focus on areas such as artificial intelligence, robotics, and bio-technology and implications are significant. Yet, despite these major changes, organizational cultures across businesses appear to have retained their masculine bias or feel. If the current trend of underrepresentation of women in the IT field continues (Camp, 1997; Klawe & Leveson, 1995; MacInnis & Khanna, 2005), these future developments will be without the influence of women, and IT will become entrenched in the public psyche as a masculine pursuit (Woodfield, 2000).

The purpose of this article is to present an overview of organizational culture and its influence on gendering identities. Further, an exploration of the evolution of organizational culture within the IT discipline will be offered to assist with our understanding of why fewer women are pursuing IT careers.

## ORGANIZATIONAL CULTURE

The concept of *organizational culture* can be traced back to the early 1940s when Kurt Lewin argued that "a factory was much more than a structure of production lines; it was the creation of a group with certain patterns of leadership, and any progressive factory management had to consider "total culture," which meant all aspects of group life" (Marrow, 1969, p.180). Nonetheless, the concept did not become popular until the 1980s when US businesses, facing sharp competition, looked for explanations of the success of their Japanese competitors (Martin, 2002). The appeal of organizational culture is four-fold: (1) it is linked with organizational success—initially with the competitiveness of Japanese companies (Pascale & Athos, 1981), but later with a range of European and North American companies (Helms Mills, 2003); (2) it takes a multi-layered approach—focusing on the interrelationship between various elements of an organization (e.g., beliefs, symbols, structure, ceremonies) rather than any single element; (3) it goes beyond the purely rational elements (e.g., rules, regulations, systems) to examine the subjective processes and outcomes (e.g., feelings, atmosphere, or climate) of an organization; and (4) it nonetheless appears relatively easy to apply (Davies, 1984).

The ensuing debates around organizational culture over the past three decades have generated several major schools of thought, ranging from those who view organizational culture as a real entity—something that can be studied as if it were a concrete entity—to those who view it as a social construct or heuristic for making sense of organizational behaviour

and outcomes (Martin, 2002). As we shall see below, feminists tend to take the latter approach. The debate has also generated over two hundred definitions of organizational culture (Ott, 1989) but they share several things in common, including: (1) a focus on the interrelationship between different levels of an organization, with a tendency to view organizations as mini-societies (Brown, 1998); and (2) a distinction between the manifestations or artifacts (e.g., dress, symbols, language) and the underlying drivers (e.g., values, beliefs) of an organizational culture (Schein, 1992). For the purposes of simplicity, we shall use the term organizational culture to refer to a heuristic or framework that examines *the configuration of beliefs, values, and assumptions that influence organizational practices and associated feelings and emotions*.

## **GENDER IDENTITY AND ORGANIZATIONAL CULTURE**

Feminist organizational scholars have greeted the development of an organizational culture focus with a mixture of interest and bewilderment. Interest stems from the promise of organizational culture to shift attention away from purely technical processes and outcomes to concerns around the socio-psychological impact of organization on the people involved. For feminists, following Oakley's (1972) distinction between "sex" as the physiological features of people and "gender" as the cultural understandings that come to be associated with those features, organizational culture can help us to explore the way that organizations contribute to gendered identities (Gherardi, 1995; Mills, 1998; Morgan, 1988). Bewilderment stems from the fact that gender has largely been ignored by the debate (Wilson, 2001) much as it has been from mainstream organizational analysis (Hearn & Parkin, 1983). In recent years a substantial body of feminist research has examined the impact of organizational culture on gendered outcomes, including discriminatory practices and the social construction of men and women (Helms Mills, 1988, 2002), and developed research strategies and strategies of culture change to deal with discrimination at work (Aaltio & Mills, 2002; Ely, Scully, & Foldy, 2003; Maddock, 1999; Mills, 1998, 2002). Much of this research suggests that organizational

culture not only results in discrimination *against* women but also contributes to discriminatory notions of women (and men). For example, where commercial airlines only hire male pilots because of supposed qualities of courage, skill and military experience they are simultaneously creating a masculine identity of piloting and excluding women from that role (Mills & Helms Mills, 2004). Similarly, where commercial airlines restrict flight attending to female applicants based on the notion that the job requires care and attentiveness this serves to reinforce the association between those characteristics and women while excluding men from the position (Cockburn, 1985, 1991). Gender identity, thus, refers to the regular association of certain characteristics with men, and the regular association of certain other (often opposite) characteristics with women. These associations revolve around notions of sexuality and are often assumed to characterize particular types of men (e.g., strong; silent; effeminate) and women (e.g., the girl next door; femme fatale; butch).

## **INFORMATION TECHNOLOGY AND GENDERED IDENTITIES**

On the surface technology may appear to be gender neutral. Certainly types of machines, such as the printing press, the airplane, the lathe, or the computer do not, in their construction, seem to be associated with male or female characteristics. Yet, as various feminist studies have revealed, certain technologies are very much associated with men, including printing (Cockburn, 1991), piloting (Mills, 1998), engineering (Wilson, 2002), and computer programming (Kramarae, 1988). It can be argued that technology refers to a set of machines (e.g., airplanes) and the skills required to operate them (e.g., piloting) and their organization into a system of production (e.g., flight schedules, operating manuals) (Thompson, 1967). The gendering aspects occur at several levels, from the construction of the machine itself (e.g., the computer language), to assumptions about who is capable of operating it and working within a particular system of operations. In each case underlying beliefs, values, and assumptions inform decisions about who is employed in the field, and these underlying dynamics can have far reaching implica-

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