Women and Social Capital Networks in the IT Workforce

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INTRODUCTION

Currently, the IT industry is experiencing explosive growth. As the need for more skilled IT workers increases, the focus on the diversity of individuals participating in IT jobs is highlighted. The under represented populations of women and minorities are being evaluated to determine ways to increase their lasting participation in the technology workforce. Although initiatives and programs have been established to recruit a more diverse labor force, the under representation persists. In an effort to address the problem of under represented populations in the IT workforce, it is necessary to evaluate the situation from a variety of angles and views. Specifically, we seek to better understand the “gender gap” in the IT workforce and the effect of social capital networks in the organization on women.

Social capital can be defined as “an instantiated informal norm that promotes cooperation between two or more individuals” (Fukuyama, 1999, p. 1). Social capital among workers in the organization has been attributed to career success due to increased access to information, resources, and sponsorship (Seibert, Kraimer, & Liden, 2001). One of the ways that social capital can be gained is through participation in networks. Overall, the benefits or advantages gained through the networking process are attributed to an increase in access to and sharing of information.

In this article, we consider social capital networks in the IT workforce and whether the existence of these networks assists in explaining the under representation of women in IT. Our research highlights the experiences of women practitioners and academics currently working in the IT field. Our aim is to uncover the story behind the organizational chart. In doing so, we summarize a study on women’s participation with social networks in the IT workforce presented in Morgan, Quesenberry, and Trauth (2004).

BACKGROUND

The notion of an informal social network in the workplace is not a new concept. References have been made to the notion of an “Old Boy’s Club,” in regard to a network of men in a position of power and privilege in an organization who share resources and information to gain advantage and opportunities. This is particularly germane to the IT field since it is characterized as a male dominated industry.

In this situation, if an “Old Boy’s Network” exists, then “women’s informal isolation [could] result in men’s greater influence and centrality” in networks (Moore, 1988, p. 575). So, the study of informal networks becomes even more important within this context (Morgan et al., 2004). The role of social networks may be playing a critical role in the exclusion of women from opportunities in the field. Social or informal networks have been defined as “the web of relationships that people use to exchange resources and services” (McGuire, 2000, p. 1). Research has pointed to the importance of social networks in areas such as status and power in organizations. Additionally, social networks have been linked to gains in skills, job leads, and mobility in an organization. A popular phrase correlated with social networks is that “it is not what you know, it is who you know.”

Social capital, which is gained in these networks, is defined as a virtuous circle of trust, including group membership and informal social ties (Putnam, 1993). The level of trust associated with social
capital is critical to access to information. Social capital has a direct relationship to the amount and quality of the information that an individual is privy to. So, it can be inferred that the more social capital one possesses the more advantage they possess in relation to opportunity and resources in the organization.

By the same token, the lack of social capital and access to resources and information may result in a decrease in upward mobility, turnover, and career satisfaction. These factors can be detrimental to maintaining employees and specifically a diverse workforce.

**MAIN THRUST OF THE ARTICLE**

The literature concerned with social networks highlights the importance of informal and interpersonal relationships with others in an organizational setting. The practice of social networking has been investigated in several industry environments similar to the IT industry. Social networks are often described in terms of strong or weak ties. Strong ties are close personal relationships that are similar in nature to interactions that an individual would carry out with their family or friends. Weak ties reflect more superficial relationships in an organization that a person may have with a co-worker or colleague. The literature on social networks in organizations explains the benefits of them in terms of mentoring, acquisition of information, and sharing of information.

The importance of interpersonal ties in a social network was discussed by Granovetter (1973). According to the author, the “strength of an interpersonal tie” is determined from a “combination of the amount of time, the emotional intensity, the intimacy, and the reciprocal services which characterize each tie” (p. 1361). The importance of “weak ties” highlights an opportunity for community acceptance. This takes place due to ties that extend out of an individual’s primary social network that connect him or her to other important social networks. These additional social networks are often valuable information resources. Granovetter showed that weak ties were often the source of job opportunities for the subjects in his study. Lin, Ensel, and Vaughn (1981) discuss the effect of networks in the process of job seeking. This research suggests that a job seeker’s ability to reach a job contact with high-status is influenced by their personal resources and use of their weak ties. It has also been argued by Wegener (1991) that social networks are beneficial to subgroups of job seekers in a variety of ways. The study explains that individuals with previous experience in high status jobs benefit from weak ties, while those from low status jobs do not. According to Brass (1985) being connected informally to the management and supervisors of an organization affects a person’s influence in that organization. Those in high-level decision making positions in an organization are deemed as the “dominant coalition” (p. 329). Traditionally, men have occupied these positions, something that has increased the difficulty for women to be a part of informal interactions with people in power in an organization. Mentoring is also an important process that occurs in an organization which is affected by the presence of social networks.

The process of mentoring and its effect on women is discussed by Burke and McKeen (1990). The authors point out that a potential hindrance to women participating in cross gender mentor relationships may be due to their inability to access information networks. This circumstance is the tendency to develop relationships with people with similar characteristics, or male management excluding women. Eby (1997) discusses the benefits of the mentoring process in the organization. Mentoring is described as a medium through which individuals gain specialized knowledge and skills, which then provide people an increased ability to adapt to change in an organization. Participation in traditional mentoring increases the likelihood for an individual to develop peer networks. Peer networks, then, may also result in peer mentoring which is an additional point of leverage for the protégé. The expansion of the peer network increases an individual’s opportunity to access resources and information regarding skill sets, career prospects, and strategies. The process of information acquisition is another important process which occurs through formal communication and through social networks.

The notion that a large informal network supports a person’s mobility in an organization through the acquisition of resources and information is discussed by Podolny and Baron (1997). The absence of
“structural holes” in an individual’s network with management and others in the organization with “fate control” increases this mobility. People in an organization with “fate control” have some critical investment in the success and direction of the organization. The types of information that flow through a social network are described as task advice, strategic information, buy-in, and social support. Siebert et al. (2001) provide a framework which details the importance of social capital on career success. It was shown that a person’s social network was influenced by access to information, access to resources, and career sponsorship which all may have an impact on career success. In addition, information sharing is an important process which can be made even more beneficial through the use of social networks.

Research has shown that gender inequality in organizations can be reinforced by sex-related differences in social networks (Ibarra, 1992). Homophily was cited as a cause of this gender inequality. Homophily refers to the preference to create same-sex work relationships in networks. An additional factor which has proven problematic in joining social networks is in translating personal characteristics and resources into a means of advantage in a network situation. Mehra, Martin, and Brass (2001) detail how different actions can be enhanced or inhibited by interaction in social networks. The authors report that people in networks may experience a variety of outcomes as a result of the attribute of their network. Often, people who are able to bring together less familiar individuals with one another benefit from an increase in information, resources, mobility, and control. Those individuals who participate in smaller social networks generally do not benefit from the myriad of information that is achieved through participation with expansive networks. The next section will explain how women’s participation in the IT workforce was evaluated to identify their relationships with social networks.

Methodology

The methodology guiding the study is based upon an NSF funded study on individual differences in the social shaping of gender and IT. This study is a qualitative research project which seeks to test an empirical theory that addresses the experience of women in IT. This article reports on interviews with women conducted between October 2002 and December 2003 with 44 female practitioners and academics working in the IT field in the United States. These in-depth interviews were held with women in Massachusetts, North Carolina, and Pennsylvania. The women were diverse in their demographic and personal characteristics. The interviews lasted approximately 90 minutes, and the interview items were derived from prior research into gender and IT (Trauth, 1995, 2002). The interviews were coded based on a coding scheme which is informed by the Individual Differences Theory of Gender and IT (Trauth, 2002; Trauth, Quesenberry, & Morgan, 2004). The data being collected reflects information about the participants’ personal information, shaping and influencing factors, and environmental context. The theory which is guiding this research investigates the individual attributes, individual influences, and environmental influences of women in IT to determine how these factors influence their participation in IT. Additionally, the theory asserts that women will respond to and experience different socio-cultural elements that affect their participation in the IT workforce in an individual manner. The research reported in this article seeks to provide further evidence in support of individual differences among women working in the IT industry.

Results

Analysis of the women’s accounts reveals that informal social networks assist in the flow of information through nontraditional channels in the organization. The type of information that is gained though these social networks can be categorized into four areas: career opportunities, task information, mentoring, and personal advantage.

Career Opportunities

Information regarding job openings, promotion, and opportunities for advancement are largely passed through social networks. In certain situations, network contacts can provide individual access to recruiters, managers, interviewers, or others in charge of hiring. For example, Allison was offered a job she did not apply for because of network contacts. In addition, the participation in a social network can provide exposure to decision makers...
who are in charge of career decisions. Betty Jean discussed finding her permanent job through friendships gained by personal networking.

Task Information

Task information that is gained through social networks regarding job specific activities assists in gaining important skills for advancement in the workplace. Often, the sharing of information can provide a way in which to resolve problems or situations, and achieve desired goals or results more quickly. Julia discussed her experiences of bonding with men socially outside of the workplace, so when she needed help they were more than willing to help her. In addition, assistance can be granted by other members of the social network who are outside an individual’s immediate team members or colleagues. Donna mentioned that the other developers would help her to understand the technical things she did not know.

Mentoring

Some forms of mentoring are established at an organization level, but a great deal of personal mentoring goes on with other members of a social network or while participating in networking activities. The gain in knowledge and social capital can be tremendous if a person has both formal mentors, and informal ones as a result of social networks. For example, Irene learned how to handle career situations through her mentors.

Personal Advantage

Social capital networks also provide advantage by allowing a person to form a personal bond or level of trust with other members of the organization. This advantage can come from exchanging information about family, hobbies, or interests, as well as by participating in social events such as lunches, happy hours, golfing, or shopping. The bond formed by people in social networks can also lead to a greater appreciation and value of a person and their work. Jeria discussed her male work environment where she made an effort to fit in with men and became their platonic friends. She discussed going out after work with her male colleagues.

The analysis of our data also revealed that women participate with social networks in a variety of ways: in the network, outside the network, and in alternative networks.

In the Network

Those women who participate in the established social network in their organization may share some common bond of experience, interest, or likeness with other members of the network. Thus, the women’s participation in the network may appear to require less effort and be more meaningful to them. Joanne discussed her male work environment where she worked to fit in with men and became their platonic friend. She discussed playing video games with her male colleagues. Among the women who did not share similarities with members of the network, some decided to develop interests in common with those involved in the network. For example, Sharon took flying lessons to be able to join in lunch conversations with her male colleagues. These women proactively made a decision to establish a bridge into the network to gain acceptance from the members. It appears that in this type of situation, there is some element of choice which is provided to the women regarding whether or not they are able participate and interact with the members.

Outside the Network

Being outside the network may be based on the group discriminating with respect to admission. The members of this social network may not be open to including individuals who do not share the commonality that links them together. Often, the sole criterion for membership in this group is gender. Jeanette described her boss who had two guys who acted as his henchmen and who established an inner circle where everybody else was excluded. When one is outside of the network and excluded, the members of the group often deny these contributions. Claire explained that she was an experienced programmer who was given clerical work on her project due to her gender and her non-membership in the network. In addition, due to some other personal responsibilities, such as family duties, many women appear at times to choose not to
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participate with the network or their activities. Carol explained that guys would stay at work overnight and come in on weekends, she did not feel that was an option for her because of her responsibility to her family.

Alternative Networks

The alternative network is a new network. The women who have chosen this option have experienced elements of either a closed or open network, but have nevertheless chosen to develop or participate in a network better suited to them. These women appear to see the value in networking and are motivated to interact with and create other network opportunities. Some alternative networks may be based outside of the workplace, but provide networking opportunities nonetheless. Emily described being involved with a support group for “design” Web women outside of the workplace.

The analysis of women’s experiences has shown that they respond in a variety of ways to inclusion and exclusion from the network. The women in this study reacted to the situation through a mechanism of their environment, personality, and responsibilities. The interaction with these social networks will continue to be an important area of research with respect to women’s participation with technology.

FUTURE TRENDS

A recent study conducted by Forret and Dougherty (2004) found that “the relationship between engaging in professional activities and total compensation for females was negative, while for males the relationship was positive” and that “increasing internal visibility was significantly related to number of promotions and total compensation for men, but not for women” (p. 429). These findings are important because it shows evidence that the professional advancement of women is not occurring in the same manner as it is for their male counterparts. So while networking behavior has been deemed critical to career success, there are still factors which prevent the contribution of women from being realized at their full capacity. Future research into this area should not only investigate the women in different workplaces, but also the policies, processes, and initiatives that actively or subtly facilitate gender inequality in organizations.

CONCLUSION

This article has examined the presence of social networks in the IT workforce and the subsequent effect on women in the field. The analysis of our data has revealed, through the lens of the Individual Differences Theory of Gender and IT, evidence that this informal network does indeed affect how women interact with others on a daily basis in the IT workforce. Good networking skill is essential for success in most industries, but when obstacles prevent the prospect of networking, a challenging situation becomes even more difficult. The women in this study provided some insight into their strategies and coping mechanisms utilized for continued participation in the workplace. Some women are in opposition to an artificial interaction with people with whom they do not share common interests, while others choose to neglect their own personal interests in order to fit in. Through these responses, women are expressing how they cope with an organizational phenomenon that has no sign of dissipating in the near future.

It is important to point out that a position inside or outside of the network is a dynamic factor. Very possibly, over time, a woman may move among social networking as her career and environment evolve. The contribution of this article is to provide further insight into the gender gap in the IT workforce by addressing a potential barrier to the participation of women. Further research in this area may evaluate the effect of the positioning with regard to networks and how that impacts overall career satisfaction and success.

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REFERENCES


KEY TERMS

Individual Differences Theory of Gender and IT: A social theory developed by Trauth et al. (2004) that focuses on within-group rather than between-group differences to explain differences in
male and female relationships with information technology and IT careers. This theory posits that the under representation of women in IT can best be explained by considering individual characteristics and individual influences that result in individual and varied responses to generalized environmental influences on women.

“Old Boy’s Club”: An informal network in which men are able to share information in a less formal setting, learn to trust each other, and establish personal relationships which generally provide advantage to those who participate in it.

Social Capital: An instantiated informal norm that promotes cooperation between two or more people.

Social Networks: The web of relationships that people use to exchange resources and services.