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The Moderating Effects of Technology on Career Success: Can Social Networks Shatter the Glass Ceiling?

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ABSTRACT

This paper reviews the demographic predictors of career success and proposes that technology plays a critical role in alleviating career success barriers for various demographic groups who have historically encountered barriers. Specifically we propose that technology can act as a moderator allowing minority groups greater participation and acceptance in networks. And, ultimately the greater participation and acceptance in networks will lead to greater career success for groups who have typically encountered "glass ceilings" based on demographic variables such as gender, age, race and ethnicity.

INTRODUCTION

It is widely recognized that technology is removing the physical barriers to upper level management that existed in the past (Podolny & Baron, 1997). In over 70% of the cases, electronic communications such as e-mail, text messaging, Web logs (blogs), and social networking sites (SNSs) are the primary communication medium for employees. In particular, SNS usage such as Facebook.com and LinkedIn.com has exploded in recent years (Ellison, Steinfield, & Lampe, 2007). A noteworthy example of the successful usage of Facebook occurred when the first African-American President, Barrack Obama was elected as President of the United States of America in November 2008.

It is also recognized that traditionally underrepresented minority groups such as Hispanics, African Americans and other ethnic groups are quickly becoming the majority in the United States. However, power is still concentrated at the top of organizations among Caucasian males. Traditional network theory posits that network centrality, namely participation and acceptance in networks, is critical for career success or attainment. We propose that successful usage of

technology such as SNSs for networking purposes helps to shatter the typical glass-ceiling barriers to career success that minority groups have traditionally faced by moderating the relationship between demographic variables and network participation and acceptance

CAREER SUCCESS AND SOCIAL NETWORKS

During these difficult economic times, individuals are increasingly reevaluating their career goals, directions, career/job satisfaction, and the need for examining factors that influence career success is becoming increasingly important. Career success is defined as the accumulated positive work and psychological outcomes resulting from one's work experiences (Arthur et al., 2005). Organizational research has developed theories and models of career success utilizing demographic, human capital, motivational, organizational, and industry variables (Igbaria & Wormley, 1995; Ng, Eby, Sorensen, & Feldman, 2005; Seibert, Kraimer, & Liden, 2001). The literature is full of studies that are aimed at predicting and facilitating career success by investigating how variables such as gender (Lyness & Thompson, 2000), personality (Judge, Higgins, Thoresen & Barrick, 1999) education (Hurley, Segrest-Purkiss, & Sonnenfeld, 2005; Judge, Higgins, Thoresen, & Barrick, 1995), and tenure in the organization (Hurley, Wally, Segrest, Scandura, & Sonnenfeld, 2003) are empirically related to 'career success.' Although several studies have provided considerable insight into the determinants of career outcomes, the roles of social network participation and acceptance are still in the nascent stages of investigation (Combs, 2003; Forret & Dougherty, 2004; Ibarra, 1995; Stoloff, Glanville, & Bienenstock, 1999).

Scholars have found that social networks are important for career advancement (e.g., Ibarra & Smith-Lovin, 1997). For instance, Seibert and his colleagues (2001) found that social networks, defined as the pattern of ties linking a defined set of persons or social actors play a crucial role in an individual's access to career opportunities. Social network theories provide a detailed analysis of the ways that individuals' social networks affect their careers in organizations (Bhatt, Gupta, & Sharma, 2007; Burt, 1992; Ibarra, 1995). Specifically, studies have focused on the use of social capital – the access and use of resources embedded in social networks – by individuals to gain opportunities for career advancement through the use of power (Ferris & Judge, 1991), reputation (Kilduff & Krackhardt, 1994; Tsui, Egan, & O'Reilly, 1992;), and influence (Brass, 1984, Brass, 1985). In sum, social networks delineate a variety of social capital resources that are critical for career success both objectively and subjectively, in terms of salary, promotion or advancement, as well as job and career satisfaction (Ellison, Steinfield, & Lampe, 2007; Friedman et al., 1998; Judge, Higgins, Thoresen, & Barrick, 1999; Seibert et al., 2001).

Since considerable research has shown that social networks positively affect career success (Podolny & Baron, 1997), advancement (Ibarra, 1995), and satisfaction (Burt, 1992), it serves to note that participation and acceptance within these social networks are of utmost importance (Friedman, Kane, & Cornfield, 1998; Friedman and Craig, 2004). However, studies in network theory have utilized social networks strictly as an independent variable, gauging its influence on various outcomes (Ibarra, 1995). Given the importance of social networks on career success, the understanding of the influence of network participation and acceptance is necessary.

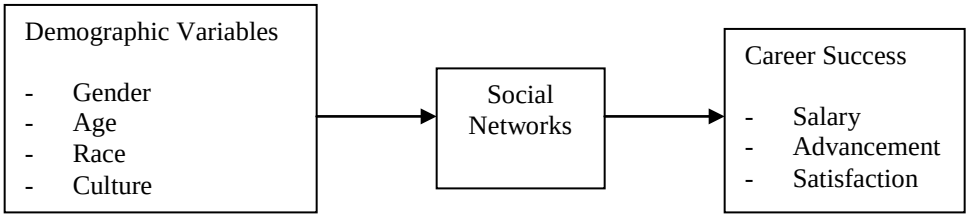
This paper identifies the influence of demographic variables on participation and acceptance in the social network, and investigates how technology may moderate this influence. Rather than concentrate on how specific network ties may lead to career advancement or success, this paper focuses on network participation and acceptance, and then discusses the demographic variables that affect participation and acceptance in this structure. Specifically, it is proposed that technology will lower the barriers that demographic differences tend to erect (Chernesky, 2003; Morrison, White, & Van Velsor, 1987), thereby allowing a greater level of participation in networks by a more diverse set of individuals and a greater acceptance of those individuals by the social networks. Since Stoloff, Glanville and Bienenstock (1999) found that more diverse social networks promote a greater level of career advancement and satisfaction, the increased acceptance of diverse individuals into the social network will lead to a greater level of overall career development within the organizational environment.

First a model is provided of the chosen antecedents to career success currently in the literature. This current view is followed by an extensive review of the social network literature discussing formal and informal networks and the influence of demographic variables and technology on the current paradigm. The moderating influence of technology is examined as a more descriptive conceptual model is developed from which propositions are derived. Finally, the paper closes with future research directions and conclusions. This conceptual evaluation will enhance the knowledge of the role of networks in the organization's social environment, while exploring the obstacles that exist for inclusion and acceptance in these social networks.

Over the last decade scholars have offered a number of antecedents to career attainment or success. Some important predictors of career success include education, motivation, and family status such as dependent responsibilities and family structure (Judge, Cable, Boudreau, & Bretz, 1995; Judge et al., 1999; Kirchmeyer, 1998). Previous research has organized these determinants into different categories (Morrison et al., 1987, Ng et al., 2005). One specific category includes demographic variables (gender, age, race, culture, etc.) while another comprises both formal and informal memberships in certain influential networks (Ng et al., 2005; Kirchmeyer, 1998; Loiacono & Huiping, 2005; Zhang & Prybutok, 2003).

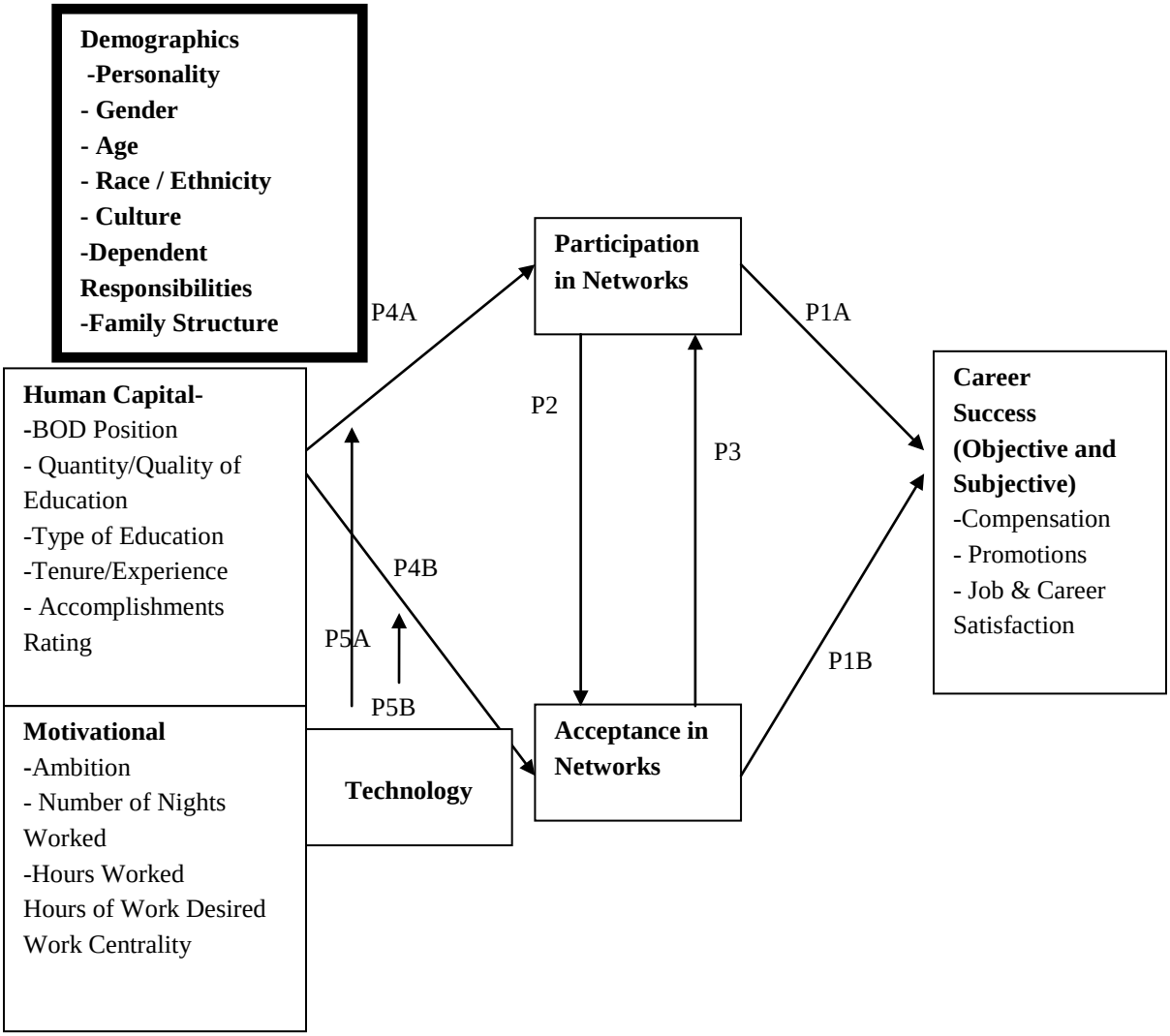
Two categories have been studied extensively by researchers, because they are both seen as vital to career success (Igbaria & Wormley, 1995; Combs, 2003; McGuire, 2000). First, demographic variables are also important, because similarity is one of the most enduring factors for inclusion in the social network (McGuire, 2000). Second, social networking allows individuals to access and process information that they could have never gained on their own, thereby maximizing their chances for career success. Based on this literature, Figure 1 shows the current theoretical model which has social networks mediating the relationship between demographic variables and career success. This model does not incorporate technology and the important roles of network participation and network acceptance.

Figure 1: Current Conceptual Model.



Based on the review given in this paper, a more inclusive informal social network model is proposed. This new model still reflects the impact of demographic factors on the informal social network; however, it also explores how technology may moderate this effect with regard to the individual (network participation) and the informal network (network acceptance). In addition, the new paradigm posits an iterative relationship between network participation and acceptance, thereby accurately representing the ongoing nature of this phenomenon in the workplace. An explanation of the various components of the model and resulting propositions will now be given.

Figure 2: Conceptual Model of Career Success, Technology, and Social Network Theory



Consistent with Judge et al. (1995), the current authors define career success as "the positive psychological or work-related outcomes or achievements one has accumulated as a result of one's work experiences." Specifically, career success includes an individual's salary, promotions, and job and career satisfaction (Arthur, Khapova, & Wilderom, 2005). According to Pfeffer (1983), demographic variables need to be taken into account when investigating the predictors of career success. Several studies have found that demographic variables and network

participation and acceptance explain more variance in career success than other sets of influences (Combs, 2003; Igbaria & Wormley, 1995; Judge et al., 1995). It has been found that the more an individual participates and is accepted by the influential social network in the organization, the higher his/her chance for advancement (Keaveny,Inderrieden, & Toumanoff, 2007; Lee & Phan, 2006). Thus,

> **P1A:** An individual's participation in the social network will be positively related to career success.
>
> **P1B:** An individual's acceptance by the social network will be positively related to career success.

NETWORK PARTICIPATION

There are two reasons to expect access to information to be related to career success. First, information is a fundamental basis of social power. Greater access to information will increase an individual's organizational reputation (Tyran & Gibson, 2008), and the individual will be perceived more powerful or influential in the organization (Cunningham & Sagas, 2007). These perceptions should make the individual better able to access opportunities for advancement independent of his or her demographic factors (Tyran & Gibson, 2008). Second, greater access to information will enhance individual work performance. Information has been noted as a contextual factor that empowers employees, leading to higher levels of motivation and performance (Granovetter, 1983). Burt (1992) argued that individuals able to use their network positions to participate within an organization add greater value to the organization. Also, it has been argued that participation in the influential network is linked to career advancement opportunities (Sparrowe, Liden, Wayne, & Kraimer, 2001). Improved work performance and adding value to the social network and organization not only enhances an individual's network acceptance, it also provides opportunities for career success (Burt, 1992). This forms the basis for the second proposition.

> **P2:** Individuals who participate in the social network will more likely be accepted into the social network.

NETWORK ACCEPTANCE

The significance of influential networks rests with the networks' ability to access valued resources offering instrumental benefits to network members. These resources positively relate to individual performance and career advancement opportunities (Combs, 2003; Moody, Beise, Woszynski, & Myers, 2003; Okpara, 2006). Influential network structures connecting intra-firm acquaintances have typically emerged through mutual engagement in work tasks, requiring a personal, oftentimes physical, connection. However, recent advances in computer-mediated communication technologies have facilitated the development of intra-organizational, electronic social networks between geographically dispersed organizational members, who are typically strangers (Ellison, Steinfeild, Lampe, 2007). Within these networks, an unlimited number of network members are able to quickly communicate through their shared organizational

technology to help each other solve problems and provide useful advice (Constant, Sproull, & Kiesler, 1996).

Theories of social capital suggest that the ability to develop the commitment and trust that are necessary for knowledge exchange is difficult to achieve in computer networks, and, therefore, must take place over a significant period of time (Nohria & Eccles, 1992; Nahapiet & Ghoshal, 1998). Thus, norms of participation in electronic networks typically dictate that those who continually seek and receive information from the network must already be accepted by the influential network (Kollock, 1999; Lakhani & von Hippel, 2000). Although research has extensively documented the demographic obstacles related to network inclusion and acceptance (Brass, 1985), it has failed to look beyond initial acceptance to continued network participation. It is proposed by the current authors that the acceptance of the individual into the network will lead to his/her continued participation in the network.

> **P3:** An individual's acceptance by the social network will lead to continued participation in the social network.

SOCIAL NETWORK THEORY AND DEMOGRAPHICS

Organizational employees gather together in many differentiated groups, because they have to interact to accomplish organizationally defined tasks. From these interactions, both formal and informal social networks develop for either organizational or personal purposes (Ibarra & Smith-Lovin, 1997; Podolny & Baron, 1997). Strong network ties, both formally and informally, have traditionally been perceived as a means of obtaining information that is seen as critical for career success (McGuire, 2000). Burt (1992) found that social network relationships among organizational members enhance career opportunities through access to information. He posited that the amount of network participation increased an individual's exposure to critical information, thereby increasing his/her chance of access (Burt, 1992). Ibarra (1995) also found that limited network access produced multiple disadvantages, including restricted knowledge of what was happening in the organization, and difficulties in forming alliances.

Network theory adopts a structural perspective on the formation of formal networks in the organization (Keaveny et al., 2007; Podolny and Baron, 1997). It emphasizes that the workers' structural location, not their individual characteristics, should determine the composition of social networks (Ibarra & Smith-Lovin, 1997; McGuire, 2000). An individual's centrality, or extent to which the individual is linked to others in the group, could be regarded as a measure of how closely he or she "belongs" to a network. Centrality describes an individual's position relative to the entire social network being considered (Freeman, 1979). Central individuals exchange knowledge with a large number of members of a network.

Research indicates that individuals who occupy more advantageous positions in networks are more likely to have access to key resources (Seibert et al., 2001). They are more likely to be connected with other powerful actors in the network, potentially receiving knowledge of higher quantity and quality than less central individuals. Therefore, if individuals are excluded from powerful influential networks at work, their exclusion should be structural (e.g., a consequence of the distribution of positions) rather than personal (e.g., rejection by another person).

In reality workers have been found in numerous studies to take each others' gender, race, age, and other demographic factors into account when forming informal networks (Arthur et al., 2005; Ng et al., 2005; McGuire, 2000; Sparrowe, Liden, Wayne, & Kraimer, 2001). These informal social networks, also known as the grapevine, have been pinpointed to be just as important, if not more so, than the formal network in the accomplishment of macro (e.g., organizational level) and micro (e.g., individual level) goals and objectives (Burt, 1992; Forret & Dougherty, 2004). Whereas formal networks represent the more prescribed links among and between organizational members emanating from the official organizational structure (e.g., organizational charts, supervisor/subordinate relationships, and standing committees) informal or emergent networks refer to voluntary associations and interactions (e.g., lunch groups, professional organizations, social outings, and interest groups) that do not necessarily have the explicit authority or sanction of the organization (Ibarra, 1995).

A widely cited explanation for individuals' apparent exclusion or limited access to informal influential networks is the preference for homophily – the interaction with others who are similar on given attributes such as age, gender, race, and education (Granovetter, 1983). Empirical studies have found that homophilous connections are stronger than heterophilious connections because strong similarities encourage intimacy (Granovetter, 1983; Marsden, 1987). These parallel personal characteristics imply common interests and worldviews, and best explain the formation of expressive ties based on interpersonal attraction (Combs, 2003; Watkins, Kaplan, Brief, Shull, Dietz, Mansfield, & Cohen, 2006).

Thus, the social homogeneity in the workplace makes communication easier and enhances instrumental relationships. Kanter (1979) descriptively noted the formation of closed social circles based on similar personal characteristics within an organization's culture that limited access and participation in the workplace's most influential networks. Numerous studies have validated the prevalence of homophily in the organization's social environment and its detrimental consequences for women (Chernesky, 2003; Cunningham & Sagas, 2007; Fernandez & Sosa, 2005; Keaveny et al., 2007), minorities (Combs, 2003; Fernandez and Sosa, 2005; Moody et al., 2003, Segrest-Purkiss, Perrewé, Gillespie, Mayes, & Ferris, 2006), and aging workers (Kacmar &Ferris, 1989).

In a study of a gender-balanced group, Brass (1985) observed that men and women tended to interact within sex-segregated networks. Research on racial differences in career outcomes (Combs, 2003; Igbaria & Wormley, 1995) provided evidence that African-Americans experienced less access to influential social networks and more restricted career advancement than Caucasian workers. Finally, research has shown an inverse relationship between the aging worker and career satisfaction (Kacmar & Ferris, 1989). These and many other studies demonstrate that there are barriers that women, minorities, and older workers face in the organization due in large part to their demographics. The model in this paper draws its structure from the theoretical foundation of social network theory, highlights these demographic factors, and considers the moderating influence of technology.

Pfeffer (1983, p. 348) argued that "demography is an important, causal variable that affects a number of intervening variables and processes and through them, a number of organization outcomes." Demographic factors are important in understanding and managing organizations,

because similarity is one of the most important bases of interpersonal attraction; and demographic features such as age, race, and gender both help to determine similarity and also signal that those who share these features are more likely to be similar. In sum, demographic theory focuses on compositional characteristics that influence communications in a network (Forret & Dougherty, 2004; McGuire, 2000) and the impact and influence in organizations (Lortie-Lussier & Rinfret, 2005).

Demographic similarities and differences have been found to influence frequencies of communication (Pfeffer, 1983). For instance, Watkins et al. (2006) argued that men (versus women) were disproportionately relied upon or sought for work-related knowledge and, in turn, obtain more promotions. Goodman (1974) suggested that the availability of communicated information and access to this information are primarily determined by personal characteristics (e.g., gender, age, and race). According to McGuire (2000), network demographic composition sets the social context for relationships within an organization. Lee and Phan (2006) found that diverse network ties were positively associated with career success, in terms of pay increases and promotions. The degree of an individual's similarity or dissimilarity to others in a network will influence the processes that affect employee communication, and subsequently serve as an important predictor of career success (Tsui & O'Reilly, 1989).

There is much evidence that women, ethnic minorities, and older workers face barriers to advancement in numerous ways (Chernesky, 2003; Okpara, 2006; McMurtrey, McGaughey, & Downey, 2008; Morrison et al., 1987; Segrest, Romero, and Domke-Damonte, (2003); Segrest-Purkiss et al., 2006). These barriers have been described in an overall fashion as "the glass ceiling", a transparent barrier which impedes advancement beyond a certain point (Morrison et al., 1987; Okpara, 2006). The lack of significant progress in breaking this glass ceiling, combined with the increased diversity of the workforce, pushes the management of this diversity to the forefront as one of the most significant issues facing organizations in the 21st century (Chernesky, 2003).

The importance of network socialization to career advancement makes the examination of participation and acceptance in influential networks critical and relevant to understanding the impact of demography on career success (Combs, 2003). The attainment of power and critical network relationships can increase career aspirations (McGuire, 2000). It can be deduced that women, minorities, and older workers may not have access to the same career opportunities, because these social networks have been closed to them in the past. These reduced career aspirations may lead to a reluctance of these demographically different individuals to participate in social networks even when given the opportunity. Therefore, based on this demographic review, it is proposed that demography will affect network participation and network acceptance.

> ***P4A*:** Individuals who are different from the most powerful group in the organization in demographic categories such as age, gender, and race, will be less likely to participate in social networks than individuals whose demographics are similar.
>
> ***P4B*:** Individuals who are different from the most powerful group in the organization in demographic categories such as age, gender, and race, will be less likely to be accepted into the social networks than individuals whose demographics are similar.

TECHNOLOGY

A formal, encompassing definition of technology which was given by Rousseau and Cooke (1984) and is related to work by Perrow (1967), Thompson (1967), and Woodward (1965) is provided here. "Technology involves the knowledge and capabilities found in concrete systems" (i. e., organizational members and the machines they use), the techniques and procedures available for transforming inputs into output (abstract systems), and the processes or activities associated with the application of these techniques (activity systems)" (Rousseau & Cooke, 1984: 347). The ever changing effect of technology on organizations is tremendous (Okpara, 2006; Podolny & Baron (1997). The growth of the Internet and other global communication networks has changed the role of technology in organizations (Okpara, 2006).

Research by Rogers (1983) has been used to predict technology adoption such as the usage of distance education by universities. And, this research on the diffusion of innovations is pertinent to the understanding of social network usage (Segrest, Domke-Damonte, Miles, & Anthony, 1998). Diffusion is defined "as the process by which an innovation is communicated through certain channels over time among the members of a social system.", and "an innovation is an idea, practice, or object that is *perceived* as new by an individual or other unit of adoption." (Rogers, 1983: 10,11). Most of the innovations analyzed by Rogers were technological, and he often used the words technology and innovation interchangeably.

Most technology follow an s-shaped rate of adoption with rate of adoption measured as the length of time necessary for innovation adoption by a certain percentage of system members. The slope of the s-curve varies. Some ideas diffuse quite rapidly and have a steep slope, while other ideas have a slower rate of adoption and a more gradual, lazy s-curve. However, in recent years, it appears that the rate of technology adoption has dramatically increased. For example, common sources estimate that to reach a market audience of 50 million users, radio took 38 years, television took 13 years, and Facebook took 2 years. In order to keep pace with these rapid changes in technology and the effects on organizations, intensive research focused on the effects of technology adoption is needed.

Understanding more about the rate of adoption of technology is increasingly important, because contemporary organizations are facing rapid technological change (Lewin & Stephens, 1993; Orlikowski, Yates, Okamura, & Fujimoto, 1995). In order to survive, organizations must keep pace with the rapidly changing environment (Reger, Mullane, Gustafson, & DeMarie, 1994; Fenner & Renn, 2004) proposed a model that includes perceived usefulness of technology and satisfaction with adopted technology as moderators capable of influencing the strength of relationships.

Social network research that focuses on influential networks has found that central network positions and the ability to connect effectively to others in the organization provide access to information and improve the opportunities for career success (Tsai, 2001). It has been proposed that social networking empowers employees and increases access to available communication channels (King, Burke, & Pemberton, 2005). The value of this information made accessible through technology will certainly increase career advancement opportunities.

Podolny and Baron's (1997) typology of network interactions indicate that demographic variables can be mitigated as organizational employees who have never met can effectively work and socialize together through technological advances such as e-mail, video conferencing, and instant messaging. Interactive media such as SNSs, e-mail and electronic bulletin boards provide rapid feedback, but often lack the cues such as accent that are available, and sometimes distracting, in face-to-face discussion (Segrest-Purkiss et al., 2006). The lack of these social cues actually assists in breaking the glass ceiling as recipients assess individual competence on the content of the discussion and not on the bassis of demographic variables (Segrest-Purkiss et al., 2006)

Technology reduces social barriers to participation and acceptance because of anonymity. Anonymity can reduce inhibition associated with evaluation apprehension and social status differences (Valacich, Dennis, & Nunamaker, 1992). Reinig and Shin (2002) argued that the reduction of social barriers to participation through anonymity would increase the likelihood of those individuals who are minorities expressing their opinions. Therefore, it is proposed that although demographic differences often leads to the exclusion of certain individuals in influential networks, technology can lift this barrier and help to shatter the glass ceiling.

> **P5A:** Technology will moderate the effect between demography and network participation by supplying individual workers who are demographically different with the necessary confidence to participate in social networks.
>
> **P5B:** Technology will moderate the effect between demography and network acceptance by significantly minimizing the barriers to network inclusion that demographic differences present.

DISCUSSION

Influential networks have long been recognized as important in career advancement (Stoloff et al., 1999; Podolny & Baron, 1997; McGuire, 2000). These influential networks can serve several purposes, one being access to information. Brass (1984, 1985) has shown that influential networks are primarily made up of Caucasian males. Traditionally a lack of access to influential networks has played a role in women and minorities missing opportunities for advancement, however technology is dramatically changing the entire nature and dynamics of this situation.

Future research is needed that examines the effects of specific types of technology in breaking down traditional barriers. Ellison et al. 2007 demonstrate the important effect that SNSs, such as Facebook, have in providing social capital. Similar research is needed that examines professional networking sites such as LinkedIn.com. Everyday social network usage has expanded dramatically, so this is certainly an area that deserves more research. For example, it is estimated that approximately 1 in every 25 Internet users went to MySpace during its peak popularity in February 2006 has over 200 million users, which would make it the 5th largest country in the world (Snyder, Carpenter, & Slauson, 2007). Twitter founded in 2006 is another interesting technology that is allowing communication via text message to reach an enormous network of people almost instantaneously. The tremendous effect of these and other new technologies that allow new forms of social networks to be formed has not been thoroughly examined and

definitely deserves research. Research that gives more attention to the benefits of technology for social networking purposes and interactions of various ethnic cues is also recommended (Combs, 2003; Moody et al., 2003; Okpara, 2006; Segrest et al, 2006). Technology can remove traditional barriers related to skin color, accented speech, height, weight, attractiveness, socio-economic status, family structure, educational background and a myriad of other variables that are typically used in judging individuals.

Regarding network analysis, future researchers should move beyond network inclusion or exclusion and explore the nature and magnitude of network differences. This requires the examination of multiple types of network relationships, structural properties of personal networks, and exploration of the effects of SSNs (Ellison et al, 2007; Fenner & Renn, 2004; Fernandez & Sosa, 2005; Forret & Dougherty, 2004). The theoretical framework proposed in this paper may be used as a guide to empirically testing the relationship between social network structure and career success outcomes, such as career mobility, salary, and promotions.

In proposing a detailed network perspective, this paper emphasizes the importance of networking and technology as determinants of career success. The model proposed in this paper predicts that the route to career success will differ depending on an individual's network activities. An important goal of this paper was to identify the importance of technology to career advancement and how technology may help to alleviate traditional glass-ceiling barriers that various minority groups have traditionally faced.

Gender-based stereotyping and the closed circle network are strong social forces that are slow to change (Forret & Dougherty, 2004). Historically, stereotyping has led to limited network access, which restricted access to information about what transpired in the organizations and limited exposure of talented individuals. This exclusion has created inequities and inefficiencies when management has failed to utilize the unique contributions from talented, diverse individuals. Ideally new technology will continue to lift traditional barriers and give network assess to an expanding population of underrepresented individuals. In recent years, technology has made it possible for network members to feel similar to others, while at the same time technology has allowed communication to become more anonymous. Both of these effects can reduce traditional glass ceiling barriers.

In this article, we sought to bridge a gap in the research by focusing the attention on network participation and acceptance, as well as the variables that affect them. Research has shown that demographic differences affect the social network, which in turn influences career advancement opportunities. Exclusion from network activity leads to multiple disadvantages, including loss of opportunities for career advancement, raises, and job satisfaction. The propositions and associated model in this paper suggest that technology has a major impact in alleviating typical "glass ceiling" effects on career success though network participation and acceptance. As technology usage continues to increase exponentially, we can expect that technology will continue to break down historical barriers in unimaginable ways and help to provide equal opportunities so that the most qualified individuals will succeed in the workplace regardless of race, religion, ethnicity, gender, culture or other irrelevant demographic variables.

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