2009

The Impact of Embeddedness on IT Worker Behavior

Michael Dinger  
*Clemson University*, dinger@clemson.edu

Varun Grover  
*Clemson University*, vgrover@clemson.edu

Jason Bennett Thatcher  
*Clemson University*, jthatch@clemson.edu

Follow this and additional works at: [http://aisel.aisnet.org/amcis2009_dc](http://aisel.aisnet.org/amcis2009_dc)

Recommended Citation

[http://aisel.aisnet.org/amcis2009_dc/18](http://aisel.aisnet.org/amcis2009_dc/18)
The Impact of Embeddedness on IT Worker Behavior

Michael Dinger
Clemson University
dinger@clemson.edu

Varun Grover
Clemson University
vgrover@clemson.edu

Jason Bennett Thatcher
Clemson University
jthatch@clemson.edu

ABSTRACT
Embeddedness theory provides significant insight into understanding the dynamics that constrain and drive the behaviors of IT professionals. Embeddedness provides a frame for understanding the behavior of IT professionals in a variety of different settings, including their job, their place in the IT function, their place in their employing organization, and their relationship with their profession. Furthermore, embeddedness can explain how factors germane to the IT profession, such as learning demands, IT skills development and training can influence individual level outcomes, such as organizational citizenship behaviors, performance, absenteeism and turnover. We intend to gather data from a sample of IT professionals and will conduct data analysis via structural equation modeling.

Keywords (Required)
IT workforce, embeddedness, job embeddedness, organizational behavior, performance, turnover

INTRODUCTION
There is little question that information technology (IT) executives place significant emphasis on motivating, retaining and developing IT professionals (Luftman and Kempaiah, 2008). To this end, information systems (IS) researchers have placed significant emphasis in understanding what motivates IT professionals (see for example Couger et al., 1979, Couger and McIntyre, 1987, Couger, 1986, Thatcher et al., 2006) and how to retain IT professionals (Joseph et al., 2007, Agarwal et al., 2006, Agarwal and Ferratt, 1999, Ferratt et al., 2005).

Concerning the retention and development of personnel, management researchers have identified the concept of ‘embeddedness.’ Embeddedness captures the idea that workers become situated in a social, contextual web over time due to their fit within the situation, their connections to other objects in the web, and the cost associated with leaving the situation (Mitchell et al., 2001). In terms of jobs, as a person becomes embedded in a job over time, their ability to withdraw from the job decreases, resulting in increased performance and lower absenteeism and turnover (Mitchell et al., 2001, Lee et al., 2004). In spite of the potential for embeddedness to significantly inform the management of IT professionals, it has yet to be applied in a significant manner within IS research.

Until now, research on embeddedness has yet to thoroughly address antecedents of embeddedness. The IT environment is a unique work environment that places distinct sets of learning demands and skill set requirements on IT professionals (Lee et al., 1995). These learning and skill demands may significantly influence an individual’s level of embeddedness in a situation. Depending on the type of skills developed, an IT professional may become more ‘stuck’ within a specific organization or within the profession. Similarly, human resource practices may significantly influence the level of embeddedness (Bergiel et al., 2009). Therefore, IT executives may gain significant insight into the management of IT professionals by understanding the forces that influence their IT professionals through various dimensions of embeddedness. Furthermore, IS researchers may come to more accurately understand the behaviors of IT professionals by understanding the impacts of these forces.

Research Questions

RQ1: How does the embeddedness of IT professionals impact individual behaviors?

RQ2: How do individual and contextual factors interact to embed IT professionals?

THEORETICAL DEVELOPMENT
Field theory suggests that human behavior is an interaction of psychological and sociological influences (Lewin, 1939). Field theory suggests that people exist within a ‘life space’ and that this life space represents and connects numerous aspects of their lives, and that these aspects exhibit varying degrees of force on their behavior. Mitchell et al (2001) adopt this notion of
life space in developing job embeddedness theory, and argue that individuals become embedded within dimensions of their life spaces.

Mitchell et al (2001) define three sets of forces that embed individuals within their life spaces (see Table 1). First, they identify the extent to which people have social links to other people or links to activities that connect an individual within a social net in a given life space. Second, they identify the degree to which an individual perceives their job or community to fit with other aspects of their life space. Finally, they identify the sacrifices associated with leaving a given situation.

<table>
<thead>
<tr>
<th>Force</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social links</td>
<td>“Links are characterized as formal or informal connections between a person and institutions or other people” (Mitchell et al., 2001 p 1104)</td>
</tr>
<tr>
<td>Fit</td>
<td>“Fit is defined as an employee's perceived compatibility or comfort with an organization and with his or her environment” (Mitchell et al., 2001 p 1104)</td>
</tr>
<tr>
<td>Sacrifice</td>
<td>“Sacrifice captures the perceived cost of material or psychological benefits that may be forfeited by leaving” (Mitchell et al., 2001 p 1105)</td>
</tr>
</tbody>
</table>

Table 1. Forces Driving Embeddedness

Within their professional and personal lives, individuals move and act within different dimensions of their lives. People conduct their lives in spaces such as their jobs (Mitchell et al., 2001), communities (Lee et al., 2004), organizations and occupations (Ng and Feldman, 2007, Feldman and Ng, 2007). Therefore, to fully model the effects of embeddedness on IT professionals, we must consider each life space dimension within which they may become embedded.

Within an organizational setting, IT professionals may become embedded within a specific job (Mitchell et al., 2001). However, IT professionals may be able to transfer their IT-based skills to other roles within the same organization. Therefore, they may be embedded within an organization as an IT employee and may become embedded within the IT role. IT professionals may also be mobile within an organization, whether or not they are embedded in a specific job or embedded within the IT function, but unable to easily leave the organization (Ng and Feldman, 2007).

Outside of the organization, IT professionals may become embedded within their occupations (Feldman and Ng, 2007) or their community environments (Mitchell et al., 2001, Lee et al., 2004).

We define each type of embeddedness in Table 2.

<table>
<thead>
<tr>
<th>Embeddedness</th>
<th>The embeddedness resulting from forces imposed by an individual’s social links on the job, fit with job requirements, and sacrifices associated with leaving the job.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Embeddedness</td>
<td>The embeddedness resulting from forces imposed by an individual’s social links on the job, fit with job requirements, and sacrifices associated with leaving the job.</td>
</tr>
<tr>
<td>IT role embeddedness</td>
<td>The embeddedness resulting from forces imposed by an individual’s social links within the IT role, fit with the IT role, and sacrifices associated with leaving the IT role.</td>
</tr>
<tr>
<td>Organizational Embeddedness</td>
<td>The embeddedness resulting from forces imposed by an individual’s social links within the organization, fit with organizational characteristics, and sacrifices associated with leaving the organization.</td>
</tr>
<tr>
<td>Occupational Embeddedness</td>
<td>The embeddedness resulting from forces imposed by an individual’s social links within the profession, fit with characteristics of work in the profession, and sacrifices associated with leaving the profession.</td>
</tr>
<tr>
<td>Community Embeddedness</td>
<td>The embeddedness resulting from forces imposed by an individual’s social links within the community, fit with the community, and sacrifices associated with leaving the community.</td>
</tr>
</tbody>
</table>

Table 2. Types of Embeddedness

Field theory suggests that human behavior is a combination of the person and environment (Lewin, 1939). Furthermore, field theory suggests that there are various forces in a person’s life that exhibit pull on a person’s life and guide or constrain behavior. Embeddedness research leverages field theory to understand how dynamics within the lives of workers combine to influence and constrain behaviors such as turnover (Mitchell et al., 2001) or decreased career mobility (Feldman and Ng, 2007).
However, research on embeddedness has focused on the outcomes of embeddedness, rather than potential antecedents of these constraining forces. Some initial research in the area suggests that various human resource policies may drive job embeddedness (Bergel et al., 2009), but research has not addressed more complex issues, such as the dynamics of how learning demands and skill development may increase or decrease dimensions of embeddedness.

The outcomes of embeddedness are framed in terms of withdrawal behaviors. Lee et al. (2004) leverage Hanish and Hulin’s (1991) work on a general withdrawal construct. Hanish and Hulin theorize that there may be a range of withdrawal behaviors. Withdrawal may begin with offering less help to colleagues and performing less well and may increase to absenteeism and turnover intention. Mitchell and colleagues (2001, Lee et al., 2004) suggest that embeddedness reduces the ability and willingness to engage in withdrawal behaviors. Therefore, they use embeddedness to predict four types of withdrawal behavior, ranging from the mild (relative level of organizational citizenship and job performance) to the more severe (absenteeism and turnover).

**Job Embeddedness**

Job embeddedness results from social links on the job, fit with job requirements, and sacrifices associated with leaving the job (Lee et al., 2004). Since people in organizations are connected and interdependent, embedded individuals will act on their felt level of fit and seek to perform well at their jobs and to help others (Lee et al., 2004). Also, these professionals fit well with the responsibilities and benefits of the job and will perform well due to this high level of fit (Kristof-Brown et al., 2005).

Finally, research suggests that embedded individuals are less able and willing to withdraw from their employment (Mitchell et al., 2001). Highly embedded individuals are less able to simply ‘skip’ work and have many forces that prevent them from leaving their employment situation. Therefore,

H1a: Job embeddedness is positively associated with organizational citizenship behaviors.

H1b: Job embeddedness is positively associated with job performance.

H1c: Job embeddedness is negatively associated with absenteeism.

H1d: Job embeddedness is negatively associated with turnover intention.

Finally, we assume that IT professionals work IT jobs. Since IT jobs are within the IT role, we argue that IT professionals who are embedded within their job also exhibit a greater level of connection and fit to the IT role. Therefore, if an individual is embedded within an IT job, they become more embedded within the IT role. Thus,

H1e: Job embeddedness is positively associated with IT role embeddedness.

**IT Role Embeddedness**

Research proposes different dimensions of embeddedness, including embeddedness within a job (Mitchell et al., 2001), organization (Ng and Feldman, 2007) or occupation (Feldman and Ng, 2007), but has not considered embeddedness at a level of abstraction between the job and organization. We propose IT role embeddedness as a dimension of embeddedness resulting from the unique demands of IT professionals.

IT role embeddedness results from forces imposed by an individual’s social links within the IT role, fit with the IT role and sacrifices associated with leaving the IT role. IT role embeddedness suggests that an IT professional has mobility within an organization, but only within the constraints of the IT function. Specifically, IT role embeddedness captures the inability of an IT professional to be promoted beyond IT-specific work or to transfer to non-IT work within the firm.

IT professionals who are embedded within the IT role are embedded for three reasons. First, these IT professionals have formed many links with other IT professionals within the IT function. Second, these IT professionals exhibit a high level of fit with the work required by the IT function within the organization. Third, the IT professional has significant reason to avoid leaving the IT function, either due to accrued benefits or investments in IT specific skills that would be sacrificed if leaving the IT function.

IT professionals embedded in the IT role are likely to engage in organizational citizenship behaviors due to their perceived level of fit within the IT function and their number of friends and colleagues within the function. The perceived fit enhances their satisfaction with the role and encourages them to help others. Similarly, the perceived level of fit increases their likelihood of performing well at their job. Also, the embedded IT professional has benefits and personal investments that they prefer to protect, thus engaging in higher levels of job performance. Finally, the embedded IT professional is less likely to engage in more severe withdrawal behaviors. They are less motivated to be absent due to their fit with the IT function and also absences are more likely to be noticed by their many IT colleagues. Finally, since they are embedded within the IT role, they are less able to actively choose to leave the organization.
H2a: IT role embeddedness is positively associated with organizational citizenship behaviors.
H2b: IT role embeddedness is positively associated with job performance.
H2c: IT role embeddedness is negatively associated with absenteeism.
H2d: IT role embeddedness is negatively associated with turnover intention.

The IT role is a function within a specific organization. If an IT professional becomes embedded within the IT role, they also realize a greater level of embeddedness within the organization. Thus,

H2e: IT role embeddedness is positively associated with organizational embeddedness.

Organizational Embeddedness
Organizational embeddedness forces act to keep an individual within the organization, but not necessarily within the specific job (Ng and Feldman, 2007). Individuals that are embedded in the organization perceive high levels of fit with the organization, have many ties with other workers in the organization, and have accrued benefits and knowledge specific to the organization, thus leading to decreased absenteeism and turnover. However, the connections within the organization may not be job or role-centric. One might have many connections within an organization, but if the connections do not revolve around the conduct of the job, then there may be little impact on the desire to perform well. For example, an IT professional might be embedded within an organization due to many social connections with non-IT workers who have offices just down the hall. These non-job oriented connections may exhibit little normative pressure on influencing the IT professional to perform well on IT projects. However, the presence of social connections and high levels of fit may encourage an IT professional to offer extra-role help. For example, whereas an IT professional with non-IT friends may not be influenced to perform well concerning IT obligations, this same professional may be willing to offer IT help to the non-IT friends. Therefore,

H3a: Organizational embeddedness is positively associated with organizational citizenship behaviors.
H3b: Organizational embeddedness is negatively associated with absenteeism.
H3c: Organizational embeddedness is negatively associated with turnover intention.

Occupational Embeddedness
Professionals who are highly embedded within IT as an occupation have made extensive investment in the field of IT, in terms of professional connections and skills development. Furthermore, these professionals chose the field of IT due to a perceived level of fit between the characteristics IT work provides and their desires. We propose IT professionals highly embedded within the IT occupation have made significant investment in their IT skills. Due to this skills investment, highly embedded IT professionals should be better at performing IT work than less embedded colleagues.

H4a: Occupational embeddedness is positively associated with job performance.

Occupationally embedded IT professionals also experience multiple forces that may influence their intent to stay in the IT field. Highly embedded IT professionals have formed many connections with other IT professionals, and have made significant investments in their personal IT skills. Due to the amount of investment that IT professionals have made in order to be an IT professional, there is a greater level of sacrifice associated with changing professions. Therefore,

H4b: Occupational embeddedness is negatively associated intent to leave the profession.

Whereas organizational embeddedness predicts lower levels of turnover, we propose that occupational embeddedness may lead to higher levels of turnover. Occupationally embedded IT professionals have many connections within the IT community and exhibit a high level of personality and skills fit with the demand of IT work. Furthermore, occupationally embedded IT professionals have little interest in leaving the IT occupation due to the sacrifices associated with leaving. This may culminate in greater turnover intention for multiple reasons. First, occupationally embedded IT professionals may be more aware of alternative employment opportunities due to their connections within the field. Along this line of reasoning, they have many social connections within the field as opposed to within the firm. Therefore, they may be able to travel between firms while sacrificing few social connections. Finally, due to their high level of fit with the IT occupation and sacrifices associated with leaving IT work, they may need to transfer between firms in order to find more lucrative IT work. For example, an IT professional may hit a ‘glass ceiling’ in terms of IT work within one firm, and due to being highly embedded within the IT occupation, may not easily be able to transfer to managerial work. Therefore, this IT professional may need to transfer between firms in order to realize greater IT career opportunities. Thus,

H4c: Occupational embeddedness is positively associated with turnover intention.
H4d: Occupational embeddedness is positively associated with perceived job alternatives.

**Community Embeddedness**

Community embeddedness (off-the-job embeddedness) represents the level of fit one feels with the local community, the number of links within the community, and the level of sacrifice associated with leaving the community (Lee et al., 2004). Lee et al. find that individuals who are embedded within a local community, through things like home ownership, family ties, and church participation, are more driven to participate at work (Lee et al., 2004). These individuals are more likely to show up at work (lower absenteeism) and less likely to quit their jobs. Thus,

H5a: Community embeddedness is negatively associated with absenteeism.

H5b: Community embeddedness is negatively associated with turnover intention.

**Antecedents of Embeddedness**

We consider the embeddedness of IT professionals to be influenced by three categories of factors: professional investments, learning demands and human resource policies.

**Professional Investments**

Ng and Feldman (2007) suggest that the development of professional skills influences a professional’s level of embeddedness. Ng and Feldman approach the impact of skill development on embeddedness by dividing skills into general occupational skills and organization specific skill sets. IT skills represent an IT professional’s investment in IT-specific training and skills development. An IT professional’s investment in IT skills may be generalizable, such as an investment in a common programming language, or may be firm specific, such as an investment in understanding a firm’s proprietary IT tools.

Ng and Feldman (2007) propose that a professional’s investment in general occupational skills serves to increase occupational embeddedness. The investment in general occupational skills essentially increases the individual’s ‘sunk cost’ associated with the profession. As the sunk cost increases, it becomes harder to leave the profession due to the higher level of perceived sacrifice associated with leaving. With an IT professional, this would suggest that any investment in general IT skills would serve to drive occupational embeddedness. General IT skills represent an IT professional’s investment in understanding of, and ability to apply, widely used information technologies. Since the general IT skills are not unique to a given job or organizational setting, investment in general IT skills only serves to create occupational embeddedness and does not influence job or organizational embeddedness. However, while general IT skills may not keep an IT professional within a specific IT job, the investment increases the likelihood that the IT professional will maintain some type of IT work within their employing firm.

H8a: General IT skills are positively associated with occupational embeddedness.

H8b: General IT skills are positively associated with IT role embeddedness.

Ng and Feldman (2007) also suggest that the development of organization specific skills creates a greater level of organizational embeddedness. This suggestion relies on the argument that as a worker’s toolset becomes tailored to the employing organization, there is a greater level of sacrifice associated with leaving that organization. Transferring this to an IT setting, we propose that the development of IT skills associated with a specific organizational setting will serve to create higher levels of organizational embeddedness. As the IT professional develops IT skills that are unique to an organization’s IT tools, they will have a higher level of ‘sunk cost’ associated with the organization and will become more embedded in the organization.

Furthermore, we argue that the embeddedness resulting from specific IT skills are realized at the level of organizational embeddedness rather than job embeddedness. Whereas the skills are likely developed in response to the demands of a given job, IT professionals may be able to leverage those same skills within multiple roles in the same organization. For example, proprietary programming language skills may be developed as a programmer, but those skills may be useful in an IT manager role or technical support role within the same firm.

Furthermore, we propose that any investment in IT skills drives occupational embeddedness within the IT profession and the IT role. Regardless of the level of specificity of the skills investment, any type of skills investment or training regarding IT work creates a higher level of sacrifice associated with leaving the profession, and reduces the ability of the IT professional to leave the IT function.

H8c: Organization specific IT skills are positively associated with IT role embeddedness.
H8d: Organization specific IT skills are positively associated with organizational embeddedness.

H8e: Organization specific IT skills are positively associated with occupational embeddedness.

Interpersonal and management knowledge represents an IT professional’s ability to lead, communicate effectively, and knowledge network (Bassellier and Benbasat, 2004). These general business competencies represent an IT professional’s investment in developing business oriented skills. As with IT skills, business skills may be general business skills or organization specific (Ng and Feldman, 2007). An investment in general business competency may be evident in investments such as pursuing an MBA, PMP certification, or Six Sigma certification. As an IT professional pursues general management knowledge as opposed to IT skills, they potentially become less embedded in the IT field. First, the IT professional may form links with general business personnel as opposed to other IT professionals. This may enable a transition to non-IT oriented work. Also, by investing in general business skills, the IT professional may begin to feel less ‘fit’ with the IT profession and perceive a greater level of fit with non-IT work. Finally, the IT professional may associate less sacrifice with leaving the IT profession due to the availability of more non-IT opportunities. Therefore,

H9a: Interpersonal and management knowledge are negatively associated with occupational embeddedness.

As with IT skills, business competencies may be oriented towards the IT professional’s current employment within an organization. Organization specific business knowledge represents an IT professional’s investment in understanding the unique business dynamics of the organization (Bassellier and Benbasat, 2004). As opposed to a general business certification, an IT professional may participate in firm-specific leadership training (Roepke et al., 2000). Such firm-specific knowledge and skills development may serve to increase an IT professional’s business skills, but the lessons learned may be targeted towards the culture and work environment of the focal firm. Therefore, organization specific business knowledge may broaden the scope of an IT professional’s potential opportunities within the firm, but may not be entirely applicable in all businesses. Thus, we propose that organization specific business skills serve to create higher levels of organizational embeddedness for the IT professional. Therefore,

H9b: Organization specific business skills are positively associated with organizational embeddedness.

Learning Demands

Learning demands are requirements imposed by the job that force the worker to learn or keep skills up-to-date (Mikkelsen et al., 2005). Learning demands force an individual to regularly update skills in order to keep pace with the job. Since learning demands are conventionally considered an obligation of IT professionals (Lee et al., 1995), learning demands may represent a uniquely powerful characteristic in causing the embeddedness of IT professionals.

First, learning demands create an obligation to continually fit oneself with the job. With the case of IT work, IT professionals must continually stay up to date on IT skills. For example, IT security personnel must regularly stay on top of changes to security measures in order to effectively protect the firm’s IT resources. Therefore, learning demands cause constant changes that result in high levels of fit.

Second, learning demands create a higher level of sacrifice associated with leaving. As the IT professional is forced to continually change and update their IT skills, their skills become more tailored to the firm. As they have invested more time in these firm specific skills, it becomes harder for them to sacrifice the skills by leaving the firm. Therefore, learning demands effectively generate embeddedness with their specific IT job and within the IT role.

H10a: Learning demands are positively associated with job embeddedness.

H10b: Learning demands are positively associated with IT role embeddedness.

Learning demands may also have a mediated impact on embeddedness, through the development of IT skills. Learning demands require the IT professional to develop more general IT skills as well as more firm specific IT skills.

H10c: Learning demands are positively associated with general IT skills.

H10d: Learning demands are positively associated with organization specific IT skills.

Human Resource Policies

We investigate four types of human resource policies: supervisor support, training, socialization tactics and mentoring activities.
Supervisor support is “the degree to which supervisors value their contributions and care about their well-being” (Eisenberger et al., 2002 p. 565). Supervisor support influences embeddedness along a number of dimensions. First, perceptions of supervisor support strengthen the social link between the IT professional and the supervisor. Second, as the IT professional receives supervisor support, they become more likely to perceive a greater level of fit between their self and their job. Finally, the IT professional may perceive that they do not want to ‘sacrifice’ a good boss by leaving for another position. Since the supervisor exists in a management role in relation to a specific job, we hypothesize the impact of supervisor support at the job level of embeddedness. However, we also allow for the potential for supervisor support to come from the individual in charge of the IT function as a whole (i.e. a CIO). Therefore,

H12a: Supervisor support is positively associated with job embeddedness.

H12b: Supervisor support is positively associated with IT role embeddedness.

Training represents the opportunity for employees to expand skill sets while on the job (Bergiel et al., 2009). As IT professionals are actively trained by the organization, their skills become more tailored to the specific IT work environment within the organization. The tailoring of their IT skills increases the level of fit with their job, the IT role and the organization. Also, this increases the level of sacrifice associated with leaving their specific job, moving outside the IT role, or leaving the organization.

H13a: Training is positively associated with job embeddedness.

H13b: Training is positively associated with IT role embeddedness.

H13c: Training is positively associated with organizational embeddedness.

Socialization tactics refer to the processes organizations use to organize the socialization of new employees, to distribute information, and to encourage a shared understanding of the workplace (Jones, 1986). Socializing new employees provides them with information on the organization, connects them with other employees, and enables them to ‘learn the ropes.’ Through socializing new employees, organizations seek to enable new employees to make sense of their new organizational environment and adapt to the social context of the organization. Research on socialization suggests six primary dimensions of socialization tactics: collective-individual, formal-informal, sequential-random, fixed-variable, serial-disjunctive, and investiture-divestiture (Van Maanen and Schein, 1979, Jones, 1986).

Collective socialization tactics imply socialization activities that are shared among groups of new organizational employees as opposed to socialization activities for individual newcomers. Collective socialization enables groups of newcomers to gain a common understanding of organizational norms and role obligations. Formal socialization tactics arrange for specific socialization activities wherein new employees can learn about the organization and their obligations, whereas informal socialization tactics allow for new employees to learn ‘on the job.’ Sequential socialization tactics set out a specific sequence of socialization activities through which newcomers progress, as opposed to random socialization in which there is no specific order of activity. Similarly, fixed socialization tactics communicate a specified set of timing regarding socialization to the newcomer, whereas variable tactics are more unknown in terms of timing. Serial tactics provide for experienced members to act as role models for new employees, whereas disjunctive tactics allow for new employees to develop their own meaning and understanding of organizational experiences. Finally, investiture tactics provide new comers with positive feedback encouraging them to adapt to the organization, whereas divestiture tactics provide the new employee negative feedback until they adapt.

Jones (1986) suggests that socialization tactics that are collective, formal, sequential, fixed, serial and investiture are more institutionalized, and researchers argue that these institutionalized tactics increase the loyalty of new employees and result in lower turnover (Griffith and Hom, 2001, Allen, 2006). Furthermore, socialization tactics have been found to increase the level of embeddedness and decrease the turnover among new organizational employees (Allen, 2006). By seeking to actively socialize employees with colleagues, organizations can increase embeddedness in two ways. First, socialization can increase the number of ties that an individual has within the organization. Second, socialization can increase the level of fit an individual feels with the organization. Therefore, socializing employees can increase their level of embeddedness. Thus,

H14a: Organizational socialization tactics that are collective, formal, sequential, fixed, serial and investing are positively associated with job embeddedness.

H14b: Organizational socialization tactics that are collective, formal, sequential, fixed, serial and investing are positively associated with IT role embeddedness.

H14c: Organizational socialization tactics that are collective, formal, sequential, fixed, serial and investing are positively associated with organizational embeddedness.
Mentoring activities may act similarly to socialization tactics. Mentoring links newer employees with more senior colleagues in an attempt to pass knowledge and experience from the mentor to the mentored. First, mentoring activities may increase the number of social links an individual feels within the organization (Allen, 2004). Mentoring relationships may also increase the level of sacrifice associated with leaving the organization or an occupation. Furthermore, mentors may be able to assist newer employees in tailoring their skills to the current organizational requirements, thus further increasing the fit with job and organizational requirements. Finally, the presence of a mentor may provide young professionals with general guidance on progressing within the field. This guidance may further embed the young professional within the occupation. Thus,

H15a: Received mentoring is positively associated with job embeddedness.
H15b: Received mentoring is positively associated with IT role embeddedness.
H15c: Received mentoring is positively associated with organizational embeddedness.
H15d: Received mentoring is positively associated with occupational embeddedness.

Controls

We include a variety of controls on the embeddedness dimensions. Due to the wide range of social aspects that may influence embeddedness, we account for the impact of many control variables. Specifically, we control for the influence of family characteristics, job satisfaction, organizational commitment, intrinsic motivation, compensation, job characteristics and personality.

Finally, we present the formal research model:

![Proposed Research Model](image)

**Figure 1. Proposed Research Model**

**SAMPLE**

We intend to gather data from actively employed IT professionals within cooperating research sites. The majority of data will be self-reported measures collected via surveys, whereas job performance will be supervisor-rated and matched to individuals. Absenteeism and turnover will be pulled from the organization a year after the administration of the surveys.

**ANALYSIS**

The model will be analyzed using covariance based structural equation modeling.
POTENTIAL IMPLICATIONS

Results will have significant practical implications for the management of IT professionals. Regardless of results, we will be able to develop implications regarding the impact of professional training, learning demands and human resource policies on the performance and withdrawal behavior of IT professionals.

Regarding theory, results will provide a more in depth perspective of the work lives of IT professionals. Results should provide an image of how IT professionals become embedded within various dimensions of their professional and personal lives, and how this embeddedness may motivate performance or constrain their mobility. Furthermore, results will contribute to general research on embeddedness by providing an understanding of how learning demands, skill development and human resource policies may contribute to the embeddedness of workers.

REFERENCES