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Information Seeking and Knowledge Acquisition Behaviors of Young Information Systems Workers: Preliminary Analysis*

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Abstract

The rapid growth of IT capital investments requires the corresponding development of IS human resources to effectively implement and apply the new technologies. This study addresses a critical, emerging research area for the development of young IS knowledge workers, which is key to providing the human infrastructure for successful implementation of IT in the future. Drawing upon the theory and methodology from several different lines of prior research, this current research project is designed to study the relationship between information seeking/knowledge acquisition behaviors and job performance of young IS workers. This paper describes a current research project in progress which investigates the information seeking and knowledge acquisition behavior of young IS workers. It is proposed that an understanding of how young IS workers approach their work and the factors facilitating or limiting their task learning process and job performance could lead to important findings affecting research, education and industry practice.

Introduction

The rapid growth of information technologies (IT) and the progression toward an information society will require the corresponding development of a cadre of qualified IS knowledge workers to effectively implement the new technologies. The projected shortage of and critical need for IS knowledge workers is now recognized as a national priority (President's Information Technology Advisory Committee Report, 1999).

The development of effective IS knowledge workers faces a number of challenges: Few professions in human history have seen such rapid changes in their knowledge base and work requirements as the field of IS today. These changes are driven not just by the unprecedented amount of new technical knowledge in the field of computing and telecommunications, but also by the changing business environment (i.e., due to the strategic importance of IT-enabled process reengineering, industry restructuring, and global competition), and the changing role of IS within organizations (i.e., from being the sole proprietor of information technologies to being a service provider to end users.) All these changes have led to major shifts in the critical skills and knowledge requirements of the profession and created tremendous new demands on IS knowledge workers (e.g., Lee, Trauth and Farwell, 1995).

A key, yet most neglected area of research is the development of young IS knowledge workers. There are two major reasons why this is a very important issue affecting IS productivity. First, effective development of young IS knowledge workers will build the human infrastructure for successful implementation of IT in the future. Second, previous empirical research studies have also found successful integration of young technical workers into the organization's knowledge base can have immediate impact not just on the job performance of the young workers, but also on *organizational performance* (Lee and Allen, 1982).

In addition, Trauth, Farwell and Lee (1993) found that there are significant gaps between what industry expects IS workers to know versus what universities teach to the IS students. In a fast changing field like IS, the young worker is often expected to "learn on the job". But little is known about how these young IS workers actually acquire the information and knowledge they need when they make the difficult transition from academic study to industry work.

This paper describes a current research project in progress which investigates the information seeking and knowledge acquisition behavior of young IS workers (Lee, 1998) and presents some of the preliminary findings.

Related Studies and Research Questions

This research study investigates the information seeking and knowledge acquisition behaviors (i.e. communication pattern and work activities pattern) of young IS professionals (i.e., recent college graduates with less than five years of IS work experience), and examine how these daily work and learning activities might be related to problem solving and job performance for different types of IS tasks. This study builds upon several lines of prior research work. One line of research examines how information seeking behaviors and work-based learning might affect the job performance and long term professional development of young engineers. Lee (1986, 1992, 1994) conducted a longitudinal research project to investigate the job performance of young engineers. No correlation was found between job performance and academic achievement. Instead, the way how young engineers approach their work and seek information appeared to be the single most important

factor that directly determined performance. Moreover, the formation of social ties with veteran colleagues was also found to be a significant factor affecting information seeking behavior and job performance.

A second line of research examines the skills and knowledge requirements of the IS profession (e.g., Lee, Trauth and Farwell, 1995). The study found major shifts in the skills and knowledge requirements of the profession. The rapid rate of changes in IT means that IS workers must be able to learn quickly on the job. In addition, technical knowledge is only one of four major components of critical skills and knowledge for IS workers. The other three dimensions included business functional knowledge, interpersonal and management skills, and technology management skills.

A third line of research centers around emerging theories of work-based, organizational learning for knowledge workers (e.g., Raelin, 1997) in general, and for new organizational comers in specific (e.g., Miller and Jablin (1991). This line of research tends to focus on the conceptual, psychological process of how new comers in an organization seek information and acquire the knowledge they need for their work.

Building upon these three lines of research work, the present paper formulates a set of key research questions that is the focus of this study:

1. What are the major (formal and informal) mechanisms that young IS workers rely upon to acquire new technical knowledge and how does the utilization of these mechanisms relate to job performance?
2. How do the young IS workers build communication ties with organizational users as well as other IS colleagues and what is the impact of these ties on job performance?
3. How might information seeking and knowledge acquisition requirements for IS workers vary for different types of IS jobs?
4. What are the key organizational/technological factors that promote or limit the information seeking and knowledge acquisition behaviors of young IS workers? And in particular, how might supervisors and mentors influence the information seeking behaviors of young IS workers?

Preliminary Analysis

This paper describes the overall framework of analysis and presents a set of specific research propositions based on the research questions discussed above.

The first phase of the data collection involved in-depth interviews with a selected group of young IS workers to explore the various mechanisms and approaches they use for acquiring knowledge. The second phase of the study involved a survey and sampling of information seeking and knowledge acquisition for a group of about 300 recent college graduates working at a large IS consulting firm.

This paper will present some of the initial findings. It will highlight some of the myths and misunderstandings about the nature of IS work and examine a sample profile of young knowledge workers who enter into this profession. It will present empirical results on how these young IS workers utilize various mechanisms to seek the knowledge they need for their jobs and relate their information seeking behavior to task requirements.

Notes:

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