



The 21st Century IT Workforce: Addressing the Market Imbalance Between Supply and Demand

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1. ABSTRACT

Increasing dependence on organizational technology coupled with the short supply of qualified IT professionals has resulted in a severe market imbalance within the IT workforce. Recruiting the necessary personnel to meet these current and future demands in this tight labor market presents tremendous challenges for IT and human resource managers alike. Organizations are finding it increasingly difficult to attract, motivate, and retain IT workers and traditional human resource practices are proving inadequate. The aim of this study is to identify specific criteria deemed important by entry-level IT applicants in influencing their decisions to enter the applicant pool of a specific firm. Given the tight labor market, the greatest challenge is not selecting the best applicants from among an existing applicant pool, but increasing the size and quality of the potential applicant pool. This project investigates these issues via the development and administration of a survey instrument utilizing a sample of potential entry-level IT applicants. The results will contribute knowledge toward organizational efforts to

enhance the IT applicant pool and provide the foundation for future research in the area of IT recruitment practices.

1.1 Keywords

IT workforce, human resources, recruitment strategies, IT careers

2. INTRODUCTION

This study explores organizational recruitment as a means to address the current shortage of IT professionals. Qualified IT professionals are already in short supply and this situation is expected to become more severe. Organizations are finding it increasingly challenging to fill these positions with individuals competent to meet contemporary technological demands and must therefore find new ways to recruit IT workers at all levels. This study focuses on entry-level IT workers, specifically college recruits. The goal of this research is to better understand the criteria utilized by entry-level IT professionals as they evaluate potential employers. This knowledge will assist organizations in modifying their recruitment strategies in order to increase the size and quality of the technical applicant pool.

3. MARKET IMBALANCE IN THE IT WORKFORCE

Organizations in the 21st century are expected to be increasingly dependent on information technology. Skilled professionals, capable of integrating new technologies into existing systems, are critical for competitive advantage in contemporary organizations. Increased reliance on IT has resulted in spiraling demand for qualified IT professionals. This escalating demand, coupled with severe shortages in the supply of IT professionals (as well as in specific skill sets) has created a market imbalance within the IT workforce. In particular, the increase in the number of IT college graduates has not kept pace with the demand for entry-level IT employees [3]. Recruiting the necessary

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human resources to meet these technology demands is extremely difficult in this tight labor market.

Against this backdrop of technological reliance, the expectations of the emerging IT workforce are changing as well. Increased emphasis on lifestyle issues, 'family values,' job flexibility, and on-going skill development have altered the nature of the employment relationship. In addition, research has shed some light on the job characteristics that motivate IT professionals during the early stages of career progression [2,4,7] underscoring increased expectations on the part of both the employee and employer. Clearly, human resource practices pervasive in IT management for the last two decades are no longer appropriate to address the expectations of 21st century employees. Human resource managers need to develop new strategies for attracting, motivating, and retaining qualified IT professionals. Investigation of the changing expectations of entry-level applicants and alternative staffing strategies will provide valuable insights for 21st century organizations confronting the market imbalance between the supply and demand for IT workers.

4. RECRUITMENT RESEARCH

Considerable research attention has been devoted to developing techniques to improve organizational staffing practices [13]. The bulk of this literature has focused on improving the quality of organizational selection decisions by improving specific company practices. In the area of recruitment, studies have addressed company practices including the selection of recruiters, recruiter training, recruitment sources, and the content of the recruitment message [6, 10,11,14].

The basic assumption underlying this stream of research is that the organization's objective is to identify the most qualified individuals from among a large pool of applicants. In the IT field, however, this underlying assumption does not hold. Organizations are currently facing a severe shortage of IT professionals [3,5,9], and given the tight labor market, the organization's efforts must be redirected. Strategies to increase the size and quality of the applicant pool are essential and proactive recruitment takes on a heightened role.

In this challenging environment, research attention needs to shift from investigating the motivations and characteristics of the existing applicant pool to increased focus on the potential applicant pool. The applicant pool consists of those individuals who have decided to explore employment opportunities with a specific firm. In contrast, the potential applicant pool includes individuals who have not (yet) decided to pursue employment with a specific firm. Shifting focus to the potential applicant pool suggests interesting research questions. For example, what factors influence individuals' decisions to enter the recruitment pool of various organizations? What factors do job

candidates consider in deciding to apply (or not apply) for employment with specific firms?

This research is a preliminary effort to identify the specific criteria articulated by entry-level IT applicants as important in their decisions to enter the applicant pool of a specific firm. Although prior research has investigated some of the factors that college graduates consider in their job search decisions [1,12], this research has not addressed the unique environment and specific criteria relating to IT graduates.

5. RESEARCH PROGRESS

The current study is divided into two research phases. Phase one focuses on the elicitation of job search criteria important to entry-level IT job applicants. Findings in phase one result in the development of the survey instrument. In phase two, the survey instrument is utilized to identify specific characteristics of the job search criteria and their relative importance in the decision to pursue employment with specific firms. In other words, what specific characteristics influence a job seeker's decision to enter the applicant pool of a specific firm? While previous studies have considered job characteristics influencing job choice decisions [1,7,8], this research attempts to tease out more specific information with respect to the granularity of these job characteristics. In addition, this research addresses job choice at an earlier stage, specifically the decision to enter the applicant pool of a particular firm.

These findings will contribute knowledge toward organizational efforts to increase the size and quality of the applicant pool. An understanding of the criteria important to applicants who choose not to apply for employment with a specific firm (i.e., members of the potential applicant pool) will aid these organizations in developing strategies to enhance their applicant pool. Given the market imbalance discussed above, this knowledge is vital in addressing the IT skills shortage and effectively executing recruitment strategies for the 21st century workforce.

The initial phase one elicitation has been completed and we are currently in the process of analyzing this data. Preliminary analysis of this data suggests patterns of agreement in the importance of certain criteria (e.g., travel, salary) as well as considerable variability in the range of identified criteria (e.g., none to extensive travel). Phase two data will provide for more in-depth analysis of job search criteria as well as company-specific ratings of important characteristics. This data will allow for comparative analyses across sample organizations.

Several major corporations have agreed to sponsor this research. These firms are heavily dependent on campus recruiting to fill entry-level IT positions and are grappling with the crisis of a severe shortage of IT applicants.

6. FUTURE DIRECTIONS

This study suggests some interesting research questions for further investigation.

- How do the criteria and sources identified by entry-level applicants vary from those identified by more seasoned IT professionals?
- How can organizations improve the fit between new hires and organizational requirements (e.g., specific recruitment strategies, selection techniques, orientation and training)?
- What can organizations do to increase the supply of qualified entry-level IT graduates in the future?
- What forms of academic-industry partnerships can be developed to enhance the future pool of IT talent?

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