

Critical Skills for New MIS Graduates

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ABSTRACT

This study identifies critical skills required of new MIS graduates from the perspective of IT professionals in the field. Results and implications for undergraduate MIS curricula will be presented at the conference.

INTRODUCTION

The U.S. Department of Labor projects five out of the top twelve occupations expected to grow the fastest between 2004 and 2014 are computer related (U.S. Department of Labor, 2007). The preparation and education of new IT professionals rests primarily with universities (Weber,

2004). In general, both computer science and Management Information Systems/ Computer Information Systems (hereafter referred to as MIS) majors provide new IT professionals, but only MIS integrates IT with business fundamentals and processes (Ehie, 2002). University MIS departments and faculty are responsible for providing a curriculum that effectively prepares future professionals for both first jobs and their subsequent careers (Noll and Wilkins, 2002; Weber, 2004). If the educator's double mandate is to prepare MIS graduates for both their first job and a successful career, then the curriculum must include both fundamentals and technologies. Fundamental business and IS concepts, theories and principles that underlie IT phenomena prepare graduates for long term employment (Weber, 2004); current technologies frequently provide the basis for first IT jobs (Williams and Pomykalski, 2004).

The process of determining what skills employers need is hindered because the IT field is extremely dynamic. With the rapid changes in technology and its evolvment as a strategic asset in many organizations, keeping up with new trends is critical for IT educators. IT is constantly changing, with shifting job descriptions, shifting industry patterns, greater competition, outsourcing, and rapid globalization, blurring both job requirements and which skills are in demand (Weber, 2004). In part, because of the dynamic nature of the field, a growing number of studies report that educators are not doing a good job of preparing future IT workers and new graduates lack the skills necessary to prosper in today's environment (Cappel, 2001/2002; Fang, Lee, and Koh, 2005; Noll and Wilkins, 2002). Others report a widening gap between expected skill sets of graduates and actual skills (Tang, Lee, and Koh, 2000/2001). This suggests a need to frequently evaluate critical skill requirements for new IT professionals.

RESEARCH APPROACH

Past studies of critical MIS skills vary by three important dimensions. First, they differ depending on who is providing the input (business organizations, with a variety of different individuals within that organization, MIS or computer science faculty, outside agencies such as those sponsoring model curricula (e.g., IS 2002) or those that accredit business schools (AACSB) or MIS/IT departments (ABET), students, or alumni. Second, they vary based on the methodology used to gather the input, including job postings, college catalogues and/or departmental web sites, surveys, or case studies. Third, studies vary in focus on either critical skills or the curriculum itself. This study empirically investigates which IT skills are most important for IT personnel, using a sample of current IT professionals from six companies (five public and one private) from the mid-South. The results are then mapped to MIS curricula.

The study has three primary goals. First, we want to ascertain an updated ordering of the critical skills important for new IT professionals from the perspective of current IT professionals. Second, using these findings, we map these skills to an updated and flexible MIS curriculum which includes a MIS core and four separate areas of concentration. Third, we want to empirically examine the extent that MIS departments should focus on the latest technologies for a graduate's first job, or on fundamentals which last a career. These are summarized in the following research questions:

1. Which actual skills are the most important for entry-level IT professionals?

2. Given an ordering of critical skills, what courses should taught and how (required? elective? part of a concentration?)
3. How much of the MIS curricula should be devoted to teaching IS fundamentals and how much should be devoted to teaching the latest technologies?

METHODOLOGY

The participants chosen for this study represent a sample from six organizations in the mid-South (OK, AR, LA, TN, MS, and MO), including two Fortune-500 firms. This sample represents the major employers that recruit MIS and CS graduates from area universities. Although this is a convenience sample, we wish to determine what our major constituents desired from our MIS graduates. Those IT professionals selected have a working knowledge of the strengths and weaknesses of new graduates as well as a vested interest in their professional preparation. While we recognize that generalizations will be constrained from this methodology, the advantage is the findings will be directly applicable to MIS (and CS) programs in this area. All respondents are working IT professionals, including CIOs, programmers, analysts, IT project leaders or team members, and support staff (e.g., help desk, software support). Respondents are not recruiters as such, but many of them are involved in hiring for their respective departments.

RESULTS AND IMPLICATIONS FOR UNDERGRADUATE MIS CURRICULA

Study results and implications for undergraduate MIS curricula will be presented at the conference.

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