Staying Up–to–Date with Changes in IT

Tanya McGill
Murdoch University, Australia

Michael Dixon
Murdoch University, Australia

INTRODUCTION

Information and communications technology (ICT) has been changing rapidly over a long period, and this rate of change is likely to continue or increase (Benamati & Lederer, 2001a; Fordham, 2001). This rapid rate of change has produced many opportunities for organizations but has also brought with it many challenges (Benamati & Lederer, 2001b; Lederer & Mendelow, 1990). Among these challenges is the struggle for organizations to obtain personnel with the appropriate knowledge and skills in order to meet their ICT needs (Byrd & Turner, 2001; Doke, 1999). This is mirrored by the continual requirement for information technology (IT) professionals to keep up-to-date with the skills required by organizations (Benamati & Lederer, 2001a; Klobas & McGill, 1993).

Previous research has investigated the importance employers place on various skills and perceived deficiencies in these skills (e.g., Doke, 1999; Leitheiser, 1992; Nelson, 1991). While the call for improved communication and social skills has been consistent, the technical skills in demand have varied dramatically over time (Van Slyke, Kittner, & Cheney, 1998). Less has been written about students' perceptions of the importance of various ICT skills, though this was addressed in a study that compared Australian and American students' perceptions of ICT job skills (von Hellens, Van Slyke, & Kittner, 2000). This chapter provides an overview of a project that investigated the channels of information that ICT students use to keep up-to-date with employers' needs.

BACKGROUND

Given that the skills required by IT professionals change over time, IT professionals need effective methods to keep up-to-date. The methods used by IT professionals to keep up-to-date were studied by Klobas and McGill (1993). They identified the existence of a variety of information-gathering strategies and noted that while IT professionals tended to be diligent in their efforts to keep up-to-date, a majority found it difficult to do so. In a more recent study, Benamati and Lederer (2001a) investigated the coping mechanisms adopted by IT professionals and noted that many mechanisms were not successful.

If it is difficult for experienced IT professionals to keep up-to-date, it is likely that it is even more difficult for ICT students to do so. New graduates require marketable skills in order to gain good employment, but the skills most in demand change regularly. Little is known about how ICT students keep informed of employers' requirements or about how they ensure that they can meet those requirements. Yet, this knowledge would be of use to both educational institutions aiming to facilitate this process and to potential employers hoping to recruit students with the required skills.

Information about ICT skill requirements is available from a variety of sources in a variety of formats. Information sources include ICT suppliers, publishing companies, and universities. Formats include different types of publications, presentations, and personal contacts. The term "information channel" can be used to describe the various combinations of sources and formats of information.

HOW DO STUDENTS KEEP UP-TO-DATE?

Eighty-five information technology students at an Australian university were surveyed to investigate the channels of information that they use to keep up-to-date with employers' needs. Participants were recruited during class and completed a questionnaire on the spot.

The questionnaire listed information channels that may be used to keep up-to-date and asked participants whether they had used each channel within the last 3 months, and also asked them to rate the importance of each channel to them as a means of knowing what skills are in demand. Importance was measured on a 5-point scale ranging from (1) "Not important" to (5) "Vital." The initial list of channels of information was drawn from Klobas and McGill's (1993) report of the methods used by IT professionals to keep up-to-date with developments in

ICT. Several additional channels were included after consultation with industry contacts. Table 1 lists the information channels included in the questionnaire.

Overall, the students appeared to be diligent in their efforts to keep up-to-date with employers' skill requirements. The average number of channels used by the students during the previous 3 months was 3.8 (and the most common number used was 5). Thirteen students (15.3%) had not made any attempt to keep up-to-date during this period, and four (4.7%) had made use of all nine listed channels.

The information channels are ranked by frequency of use in Table 1. The most frequently consulted channels were newspaper employment and IT sections and Internet sources. University instructors had been consulted by about half of the participants during the previous 3 months. Other students had also been used as sources of information by a number of students (40%). This high level of use of other students to provide information about employers' skill requirements is understandable given the easy accessibility of other students (Klobas & McGill, 1993). Work colleagues were ranked seventh overall, but as only around a third of the participants had ICT work experience, this means that most of those with prior experience had consulted their colleagues (75% of those with prior ICT work experience had consulted their colleagues). The least used channels were books and vendor presentations. It is likely that students were conscious that information about employer skill requirements derived from books was not going to be sufficiently up-to-date to meet their needs.

Table 2 shows the importance rankings of the individual information channels. The most highly ranked information channel was Internet sources, such as the Cisco and Lucent sites. As well as being frequently used, newspaper ICT sections and employment pages were also considered very important (ranked two and three). University instructors were ranked fourth in importance, which was consistent with their frequency of consultation by students. Although other students were consulted by many students, they were not considered an important channel of information (ranked seventh). This suggests that students recognize that although other students are easily accessible sources of information, they are not necessarily accurate or reliable sources. Both books and vendor presentations were considered of low importance. In future research, it would be interesting to determine how well student perceptions match those of employers.

In addition to the items about methods used to keep up-to-date, participants were also asked several questions that addressed whether they believed they were, in fact, obtaining the skills employers required. A majority of participants believed that their degree would provide the skills employers require (67.1% "yes," 5.9% "no," and 27.1% "not sure"). This high level of confidence suggests that although only around 50% of students had consulted their instructors about employer skill requirements during the previous 3 months (and instructors were only given a medium ranking of importance), students implicitly accept that instructors know what skills students require. Industry certification was also seen as a very important means to ensure that students obtain the necessary skills (mean importance score was 4.18/5 for those students not yet working in the ICT industry). This is consistent with the results of a recent study on IT certification that found that students undertaking certification believe that the most important benefit of certification is that it provides "real-world" experience (McGill & Dixon, 2004).

Table 1. Information channels ranked by frequency of use

Rank	Information channel	Number	Percentage
1	Newspaper employment pages	56	65.9
2	Newspaper ICT sections	52	61.2
3	Internet sources (e.g., Cisco, Lucent)	47	55.3
4	University instructors	43	50.6
5	Other students	34	40.0
6	ICT magazines (e.g., *Packet Magazine*)	29	34.1
7	Work colleagues	24	28.2
8	Books	20	23.5
9	Vendor presentations	17	20.0

3 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/staying-date-changes/14661

Related Content

An Analysis of Academic Research Productivity of Information Systems Faculty
Qing Huand T. Grandon Gill (2002). *Advanced Topics in Information Resources Management, Volume 1 (pp. 296-314).*
www.irma-international.org/chapter/analysis-academic-research-productivity-information/4591

Development of KABISA: A Computer-Based Training Program for Clinical Diagnosis in Developing Countries
Jef Van den Ende, Stefano Laganà, Koenraad Blot, Zeno Bisoffi, Erwin Van den Endenand Louis Vermeulen (2005). *Journal of Cases on Information Technology (pp. 136-145).*
www.irma-international.org/article/development-kabisa-computer-based-training/3143

The Role of E-Services in the Library Virtualization Process
Ada Scupola (2009). *Encyclopedia of Information Science and Technology, Second Edition (pp. 3332-3337).*
www.irma-international.org/chapter/role-services-library-virtualization-process/14067

Academic Virtual Meetings Management with a Synthesis Builder
Farida Bouarab-Dahmani (2017). *Journal of Information Technology Research (pp. 40-59).*
www.irma-international.org/article/academic-virtual-meetings-management-with-a-synthesis-builder/178573

Factors Influencing the Lifetime of Telecommunication and Information Technology Standards: Results of an Explorative Analysis of the PERINORM Database
Knut Blind (2008). *Information Communication Technologies: Concepts, Methodologies, Tools, and Applications (pp. 383-404).*
www.irma-international.org/chapter/factors-influencing-lifetime-telecommunication-information/22674