

Chapter 1

Patterns of Skills and Careers in the Information Technology Workforce

Christine V. Bullen
Stevens Institute of Technology, USA

Thomas Abraham
Kean University, USA

ABSTRACT

There are a number of significant forces shaping the Information Technology (IT) work force: the migration of skills due to global sourcing, the thin pipeline of skills in high-income locations due to several years of lowered enrollments in IT-related university programs, and the impact of the largest retirement bubble in history, that is, the retirement of baby boomers. The impact of these forces was investigated through interviews and surveys with companies that purchase IT global sourcing (clients) and those that deliver IT services (providers). The results of this research indicate a new pattern of skills and capabilities that will be required by individuals pursuing a successful career in Information Technology. Business skills and client facing skills showed up at the top of the rankings. They also indicate the need for industry to develop a new approach to hiring and retaining IT professionals. The traditional career path of programmer-analyst-manager will need to be replaced by new paths.

INTRODUCTION

This chapter will provide an overview of the results of this work, which has been supported by the Society for Information Management

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(SIM), and carried out by a team of academics and practitioners located around the world (see acknowledgements section). The implications of these findings are significant for both industry hiring and career development, and for planning IT curricula in colleges and universities. The initial phase was a study of workforce trends

in IT client companies. Results from phase one revealed a shift in the mission of the information system function from delivering technology-based solutions to managing the process of delivering solutions. Client-facing capabilities were found to be critical to this mission as well as business and project-management capabilities.

Phase two examined workforce trends in IT provider companies. Results indicate that provider firms are also seeking client-facing capabilities, project management and business domain knowledge over technical capabilities. Comparing the results of the two phases reveals implications for hiring, curriculum design, and corporate training practices.

The results of this research underline a looming crisis in several areas: (1) graduates who are not trained in areas that the marketplace is seeking; (2) thin pipeline for specific technical skills; (3) increasing pressure to source IT capability; (4) lag in university responsiveness to the needs of the marketplace; and (5) lag in industry practice regarding hiring and retention.

BACKGROUND

The IT community has focused on staffing and workforce issues as a critical topic in the management of the function for the past thirty years (Ball & Harris, 1982; Brancheau & Wetherbe, 1987; Leitheiser, 1992; Luftman and Kempaiah, 2008; Niederman and Mandviwalla, 2004). The work described here specifically examines what firms consider critical when hiring and developing their own IT professionals. In addition, there has been very little investigation into the capabilities sought by IT service providers. Therefore this study represents a view into previously overlooked research areas.

Kaplan and Lerouge (2007) review the human resource management literature for IT workers and make some recommendations including

- Creating boundary spanning jobs, practicing effective performance management, and increasing participation in decision making.
- Providing concrete resources such as research time, opportunities to attend courses, and physical facilities that facilitate trial and error.
- Augmenting generalized technical knowledge and skills with organization-specific ones.

King (2008) indicates traditional IT job titles such as programmer and systems analyst are disappearing and these jobs are being embedded in the business.

Ingervaldson (2008) recommends establishing separate technical and managerial career paths that enable workers to remain technical and achieve higher pay and status within the organization. This is the only way to retain top technical people who have no interest in managing others.

The literature demonstrates that interest in the IT workforce and career paths has been a research issue for many years. Management has struggled with understanding how to motivate and reward IT professionals. But the IT workforce is a proverbial “moving target” as specific technical areas gain and then loses popularity, as market forces such as IT outsourcing influence the hiring and development decisions, and as market supply and demand varies.

The research described here addresses the evolution of what has been a strictly technical position to one which blends technical and business expertise. The new set of blended skills goes beyond previously described need for specific business knowledge and also brings the requirements to the entry-level position and thereby affects the academic program curricula.

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