Chapter I

Skills, Management of Skills, and IT Skills Requirements

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Abstract

Information technology (IT) skill shortages appear at the market level occasionally—usually for emerging technologies, unanticipated challenges, and/or unresolved issues such as systems security. Even when a market-level skill shortage does not exist, a firm can still suffer from skill shortages for its critical information system (IS) project and/or IT operations unless the firm plans and manages its needs for IT skills. This chapter first surveys IT skills at the market level and then at the firm level to gain a perspective on the issues. Attention turns to the nature and characteristics of skills in general—not just IT skills—by reviewing past literature. The management of skills is deeply rooted in the management of knowledge, skills, and abilities (KSAs) and human resource practices of the firm. Key issues and lessons are drawn from the literature in those areas. We

conclude by considering the nature and characteristics of IT skills in developing an agenda for the effective management of IT skills.

Introduction

The employment issues for information technology (IT) professionals are sources of considerable debate. While the economy may be on its way to the recovery, many firms still struggle to contain costs. IT has especially been impacted by the tidal waves of changes in the economy.

The 1990s enjoyed an economic boom due to the Internet and its killer application, e-commerce. At the turn of the 21st century, the Bureau of Labor Statistics (2000) estimated that between 1998 and 2008 the demand for IT professionals, such as computer engineers, computer support specialists, database administrators, and systems analysts, would grow at rates exceeding 70%. In 2001, industry surveys estimated that there were 850,000 IT positions open in the U.S. and that Europe had 1.7 million vacant IT positions (Fisher, 2001). Along this line, industries and nations recognized the IT skills shortage as a major problem needing a resolution. For example, the Sector Skills Development Agency (SSDA) in the United Kingdom (UK) funds, supports, and champions the new UK-wide network of influential, employer-led Sector Skills Councils (SSCs). One of the SSCs is e-skills, designed to foster skill availabilities for the IT, Telecoms, and Contact Centre sectors. The U.S. government also had similar initiatives and produced reports on this matter (Rada, 1999).

However, a drastic shift in the economic climate occurred particularly after the September 11 attack. Firms were forced to slash operational costs by streamlining their business processes. Unemployment rates went up. All of a sudden, the IT skills shortage disappeared in firms. A good number of IT professionals were forced out of their positions.

According to the U.S. Labor Department, the number of workers filing for unemployment benefits rose to 439,000 as of July 2003. A recent press release by the Information Technology Association of America (ITAA) (2003) says, "[P]redicted demand for hiring IT workers has reached a historic low of only 493,000 positions over the next 12 months—down from 1.6 million at the start of 2000 and less than one-half of the predicted 1.1 million positions needed at

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