Leapfrogging an IT Labor Force: Multinational and Indigenous Perspectives

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Throughout the world countries recognizing the economic benefits of IT are rapidly developing information sectors. Advanced industrialized nations have been moving gradually from industrial to post-industrial work while newly industrializing nations are leapfrogging directly from agrarian to information-intensive work. At the close of the twentieth century some interesting tensions result from these two types of nations moving in the same direction. An important issue for both advanced industrialized countries and newly industrializing nations is the human resource issue. Managers at multinational firms as well as policy makers in newly industrializing countries recognize the need for developing qualified IT personnel. The Irish IT sector provides a valuable setting for studying human resource issues associated with the rapid development of an information sector because it affords the opportunity to explore both the multinational and the indigenous viewpoints. Two key human resource issues for the global IT sector are explored in this paper: ensuring a supply of qualified IT workers in the host country and managing IT workers in a cross-cultural work environment. This paper is based upon an ethnographic study of the information sector in Ireland. The issues that are raised represent the experiences of American and Irish managers, Irish policy makers and Irish IT workers.

As the global economy moves further into the post-industrial era, nations around the world see opportunities for economic development in the information sector of their economies. Advanced industrialized nations have been moving gradually from industrial to post-industrial work over the past several decades and have spawned the multinational IT companies which have enabled the development of a global information sector. Newly industrializing countries, on the other hand, have been leapfrogging in recent years directly from agrarian to information-intensive work. At the close of the twentieth century, some interesting tensions are resulting from both economies moving in the same direction. A critical consideration in the development of a global information sector is the human resource issue: the development and management of appropriately qualified information technology (IT) workers. These are the individuals who fuel the information economy by producing the computers, developing the software and providing the information services that keep it running.

Ireland provides a valuable context for examining IT human resource issues in the information sector for several reasons. Because it developed its information sector through inward investment by multinational firms, the case of Ireland includes two different points of view: 1) that of multinational IT firms from advanced industrialized nations; and 2) that of ‘second wave’ countries typically, newly industrializing countries. Second wave IT countries such as Ireland are those which are taking an alternate path into the information economy by rapidly moving directly from an agrarian or partially developed industrial economy into an information economy. They have been doing this in the last few decades of the twentieth century. They stand in contrast to ‘first wave’
countries — typically advanced industrialized nations — which have been moving into the information economy after a gradual transition from an agrarian through an industrial to a post-industrial economy. In addition, since Ireland has been actively engaged in developing its information sector for thirty years, there is ample opportunity to critically analyze the experiences of policy makers, Irish workers and managers, and multinational managers in order to offer some useful lessons applicable to other contexts.

This paper addresses some issues encountered by Irish and American IT professionals in the development of an Irish IT work force in conjunction with an economic development policy of inward investment by multinational IT firms. Specifically, this paper addresses two important sets of human resource issues. The first set relates to ensuring a supply of appropriately qualified IT workers. These issues range from educational policy to creating a national climate and infrastructure supportive of IT work. The second set of human resource issues relates to managing IT workers in a cross-cultural environment. This culturally diverse work environment has resulted from the infusion of multinational IT firms reflecting a variety of national cultures. To the extent that Ireland’s experiences are typical of other second wave countries, the lessons learned are extensible to indigenous and multinational managers as well as government policy makers in other countries. As the title of this paper suggests, the lessons apply not just to the host country but to multinational IT management as well.

This paper is situated at the intersection of two important streams of global IT research. One of these streams is producing a body of literature consisting of country-level studies that examine the interaction between IT development, diffusion and use, and societal context. This paper contributes to this body of literature by providing primary-source information about socio-cultural factors in the Irish context and how they are influencing the human resource dimension of IT. The other stream of relevant research is concerned with IT and its role both in developing countries and in economic development. Attention in this body of literature is also given to cross-cultural issues deriving from the interactions between transnational corporations and their foreign subsidiaries. This paper contributes to this body of literature by highlighting the human resource and management issues that arise in a nation desirous of using IT employment for economic advancement.

**Methodology**

This paper is part of an ethnographic study of Ireland’s IT sector. The overall objective of this research project was to conduct an interpretive investigation of the interaction between societal context and the evolution of the primary information sector in Ireland. The general research model used in framing this project is shown in Figure 1.4

The primary sources of data for this paper are participant observation and semi-structured interviews conducted at 14 multinational and indigenous IT firms in the hardware, software and information services industries in Ireland. This information is supplemented with public policy documents and interviews with policy makers and cultural observers. Participating firms and the number of participants at each are shown in Table 1.5 Interviews of one and one-half to two hours in typical duration were conducted with Irish and American IT workers and managers representative of the spectrum of IT work from component assemblers to software engineers to managing directors.6

Transcripts of the interviews were analyzed using open coding (Strauss, 1987), and a database of respondent characteristics and comments was created to facilitate retrieval and systematic analysis of the data. An in-depth discussion of the methodology can be found in Trauth (1997) and Trauth & O’Connor (1991). The human resource issues that surfaced from this single country case have implications well beyond

![Figure 1. Influence-Impact Model of Society-Technology Interaction](image-url)
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