Global Information Systems and Human Resource Management: A Research Agenda

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A socio-technical approach to information systems requires recognition of the inextricable link between information technologies and humans as designers and users. This essay explores five areas in which information technology and human computer designers/users interact within the context of global organizations. These five areas are: using information technology to support the human resource strategy of global organizations, using information technology to support the generation and distribution of organizational learning, using human resource management techniques and programs to support the work of information systems professionals, using human resource management techniques and programs to support the work of global “end-users” or knowledge workers, and, finally, national and regional policies to support technical and human resource infrastructures.

In recent years, there has been a flurry of research in the area of intellectual capital, knowledge management, and organizational learning. Much of this research has focused on three areas. First, papers argue that the successful acquisition and application of knowledge should contribute to the profitability of the firm. Secondly, articles asserting that strategies for accumulating and implementing knowledge must account for differences between explicit and tacit (or implicit) forms of knowledge. These types of knowledge are distinguished in terms of the degree to which they are codified or formalized for storage and dissemination. Where explicit knowledge has been or could easily be codified or formalized, tacit knowledge is embedded in human capabilities to perform an action as well as (or sometimes instead of) understanding how the action should be performed. Tacit knowledge has not been or would be very difficult to codify. Finally, here are studies that are concerned with an operational level of collecting, storing, and distributing information to implement organizational knowledge acquisition strategies effectively.

The thesis of this essay is that the development of intellectual capital, knowledge management, and organizational learning, particularly concerning transnational, multinational, and global organizations, should include consideration of both information systems and human resource management. It is important to clarify that intellectual capital refers to viewing the value of knowledge, skills, and abilities within an institution much as one would value a physical inventory. Knowledge management pertains to the organization of information and “know-how” in order for the firm to add more value or to add a given amount of value at lower cost or with more efficiency. Finally, organizational learning pertains to processes by which knowledge and “know-how” are gathered, institutionalized, and reinforced. In this paper, these concepts are viewed as distinct yet interrelated, much as income statements and balance sheets represent distinct facets of a firm’s financial position, yet refer to the same underlying set of realities.

Consideration of intellectual capital, knowledge management, and organizational learning as related to information systems and human resource management of global organizations can be viewed through different lenses. First, information systems can be used to support a wide variety of human resource strategies, which in turn support the acquisition, development, and retention of intellectual capital resources.
embodied in organizational employees and other stakeholders such as customers, suppliers, and regulators. Secondly, information systems can be used to support a wide variety of mechanisms to enable the acquisition, storage, and distribution of information organized into explicit knowledge. Thirdly, human resource management programs can be designed to support the recruitment, training, and retention of information systems professionals at all levels of competence who carry with them varying (hopefully increasing) amounts of both explicit and more importantly tacit knowledge. Fourthly, human resource management programs, particularly in areas of training, can support knowledge workers throughout the organization in enriching their holdings of information technology related skills as well as the ability to translate these into domain specific programs that add value within their particular functional domain. Finally, nations can develop both information technology infrastructures and skilled personnel to support both high technology firms and traditionally low technology manufacturing and service firms to add value through information systems.

Although much of the discussion regarding intellectual capital, knowledge management, and organizational learning can apply to organizations existing within one domestic economy, a number of special issues are more pronounced in the global context. For example, transfer of knowledge, both explicit and tacit will almost certainly have significant interaction with multiple cultures in the global context. For explicit knowledge this may include issues such as language and electronic infrastructures to make such knowledge available to a variety of users. For tacit knowledge, this can include language, differences in cultural understanding and context, and difficulties in overcoming lack of physical proximity. It is not unusual for a central method of diffusion of new technologies to be based in transfer (permanent or temporary) of skilled personnel. In the international environment without a long-term planned global human resource management strategy, this can be very difficult (Roberts, Kossek, and Ozeki, 1998).

In the next sections of this essay, each of the five areas combining human resource management, information systems, and global organizations will be examined. It is hoped that this discussion will produce a deeper understanding of the issues involved, the managerial decisions that follow from knowledge in these areas, and of the potential for meaningful and productive research aimed at addressing questions that link human resource management and technical infrastructures within a global approach.

**Five-Part Research Agenda**

**IT Supporting Human Resource Strategy:**

**Global HRIS**

The traditional function of human resource management pertains to a variety of organizational activities ranging from labor relations and compensation to recruitment and performance evaluation. As Pfeffer (1998) points out, the quality of a firm’s management of human resources can have significant impact on the firm’s profitability. Roberts, Kossek, and Ozeki (1998) provide examples of how these issues take on a greater complexity and difficulty when applied to a global workforce. The key to achieving organizational benefits from human resource management derives largely from the skilled application of fairly traditional functions such as providing appropriate compensation and performance evaluation across a widely diverse and quickly changing inventory of employees. Computer-based human resource information systems largely have two purposes. First, they must streamline, automate, and (if possible) eliminate repetitive and routine functions with the intention of establishing lower costs and higher reliability for these functions. For example, they should transform payroll operations from a heavily labor dependent function to one that is automated to minimize errors and labor costs. Secondly, computer-based HRIS should extract and store information from human resource transactions for improved management decision making. For example, storage of information regarding worldwide job applicants within a relational database that provides the capability of generating ad hoc queries can allow managers to locate high quality applicants from a large and diverse applicant pool.

Harrison and Deans (1994) identify and describe 12 essential components of a global HRIS. The identified components are: basic employee information, applicant tracking, recruiting, equal employment opportunity/affirmative action (EEO/AA), position control, performance management, compensation, payroll, benefits, training, career development/skill inventory, and human resource planning. Each of these areas presents its own set of difficulties in expanding from a single country to multinational database. For example, a global benefits database may have to recognize that some of the potential benefits within one country may not be available within others. Even more significantly, benefits offered in one country may not be needed where the government of another country provides the benefit universally within its borders (e.g., some health care items). As Harrison and Deans point out, global organizations face a range of technical issues in order to gather and integrate these pieces of information across boundaries. As pointed out in the interview with Michael Lutz of Lucent Technologies (this issue), simply sending information to a single repository has significant difficulties. These are often overwhelmed by the difficulties in insuring that all data fields are used in the same way and that all data needed for each local organization is available without swamping the overall system. Global firms also face managerial, organizational, and cultural issues involved in using this information in new ways within the organization. Employees may find themselves facing increasing levels of competition for promotions or choice assignments. A plethora of highly trained employees in countries such as Ireland or India may effectively preempt assignments that would go to less highly trained employees in other countries. Additional managerial and organizational issues include: (1) providing the appropriate information for local use while still collecting data for