

## Chapter XXV

# Cultural Diversity Challenges: Issues for Managing Globally Distributed Knowledge Workers in Software Development

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### ABSTRACT

This chapter discusses cultural diversity challenges in globally distributed software development and the implications for educating and managing the future global information technology workforce. It argues that the work practices of global software development are facing a variety of challenges associated with cultural diversity, which are manifested in and can be analyzed from three dimensions: the work environment of global software development, the globally distributed knowledge workers, and the global software development work. It further articulates how cultural diversity is manifested in these three dimensions. Furthermore, it highlights the importance of de-

veloping cultural awareness and cultural diversity understanding as important skills for the future information technology workforce.

### INTRODUCTION

In this chapter, we explore the cultural diversity challenges of managing globally distributed knowledge workers who engage in global software development work practices. This topic is important to information technology personnel management and knowledge management for three reasons. First, there has been a significant increase in global software development work practices in recent years. Such work practices

not only adopt the conventional characteristics of knowledge intensive work, but also generate a set of distinct features, which call special attention to managerial researchers and practitioners. Second, in global software development, the information technology (IT) professionals are globally distributed in the forms of global virtual teams and represent a wide range of nationalities and, thus cultures. Therefore, we should not only acknowledge the existence of cultural diversity of globally distributed knowledge workers, but also explore how such cultural diversity may affect global software development work, and how to explore, assess, and manage this cultural diversity. Third, although cross-cultural issues have been one of the major concerns of the global information systems discipline, there are still on-going debates about how to assess culture and cultural diversity. As a result, different views of culture and cultural diversity will have impacts on the related human resource strategies used in managing global IT personnel. Consequently, evaluation and reflection on those issues in global software development work environments are very important.

As knowledge work is increasingly outsourced globally, we would like to take the opportunity in this book chapter to consider the cultural diversity challenges of managing globally distributed knowledge workers. The objectives of this book chapter are: (1) to propose a framework to address the cross-cultural aspects of managing IT personnel in globally distributed software development work; and (2) to discuss some managerial implications that are derived from this framework. We believe both professionals and academics working in the field of global information technology and information systems (IS) management will benefit from these discussions.

The organization of the book chapter proceeds as follows. In the Background section, we introduce the concepts of global software development and virtual teamwork. Then we present our research framework, which focuses on articulating

how cultural diversity is manifested in global software development workplaces, workers, and work practices. In the following section on recommendations, we discuss how we may address the cultural diversity challenges in managing globally distributed knowledge workers who are engaged in global software development activities, particularly from the perspectives of IS/IT education and organizational human resource management.

## **BACKGROUND**

### **Global Software Development**

Global software development as one type of information technology offshore outsourcing activities (Lacity & Willocks, 2001), has become an established practice for software and information systems development (Carmel & Agarwal, 2002; Herbsleb & Moitra, 2001). Global software development can be defined as software and information systems development practices that are knowledge intensive and involve the work arrangements between two or more organizations across the national boundaries.

Software and information systems development has been widely conceived as knowledge-intensive work (Henninger, 1997; Swart & Kinnie, 2003) with three characteristics. First, knowledge as intellectual capital is an important input to a software development project, and an important output as well (Swart & Kinnie, 2003; van Solingen, Berghout, Kusters, & Trienekens, 2000). Second, Waterson, Clegg, and Axtell (1997) pointed out that software development work is “knowledge intensive” in the sense that building a complex software system demands selecting and coordinating multiple sources of knowledge (Shukla & Sethi, 2004). Drucker (2004) argued that the specialized knowledge in knowledge work indicates that knowledge workers need to access the organization—the collective

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