

Chapter 6.21

Project Quality of Off-Shore Virtual Teams Engaged in Software Requirements Analysis: An Exploratory Comparative Study

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ABSTRACT

The off-shore software development companies in countries such as India use a global delivery model in which initial requirement analysis phase of software projects get executed at client locations to leverage frequent and deep interaction between user and developer teams. Subsequent phases such as design, coding and testing are completed at off-shore locations. Emerging trends indicate an increasing interest in off-shoring even requirements analysis phase using computer mediated

communication. We conducted an exploratory research study involving students from Management Development Institute (MDI), India and Marquette University (MU), U.S.A. to determine quality of such off-shored requirements analysis projects. Our findings suggest that project quality of teams engaged in pure off-shore mode is comparable to that of teams engaged in collocated mode. However, the effect of controls such as user project monitoring on the quality of off-shored projects needs to be studied further.

INTRODUCTION

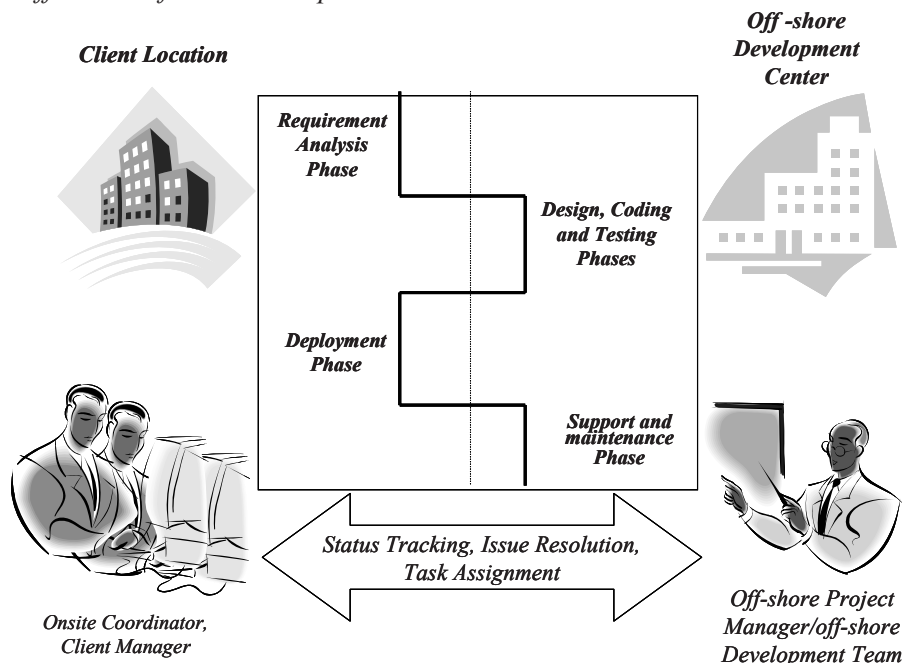
The past two decades have witnessed significant globalization of the software development process with development rapidly moving away from the traditional collocated model, often called *on-site development*, to the off-shoring model. With the availability of increasingly skilled, flexible, and economical IT workforce in countries such as India, Malaysia, and China, it makes financial sense for United States and European client organizations to execute a significant portion of software projects in these countries. This growing trend towards off-shoring has, in turn, spurred growth in many Asian nations, creating improved economic and IT infrastructure and enhancing the viability of these countries as software service providers. For example, India has emerged as a dominant off-shore software development industry with revenue of about \$16.7 billion, which is projected to reach \$60 billion by the year 2010 (Carmel, 2006; National Association of Software and Service Companies, 2005).

The Indian off-shore software industry has matured over the years, and process capability has been steadily improving. Coordination and communication problems typically encountered in off-shore development (see Battin, Crocker, Kreidler, & Subramanian, 2001, for an extended discussion), are mitigated by the use of processes such as rational task assignments and liaisoning, and tools such as centralized bug reporting system and software configuration management platforms. A case in point is India's Infosys Technologies, which has significantly leveraged time zone differences with its clients by modifying its organizational culture, processes, and communication technologies (Carmel, 2006).

The typical off-shore development model, followed successfully for over a decade by many Indian software companies such as Infosys, Wipro, TCS, and Satyam, is illustrated in Figure 1.

Requirements analysis refers to that stage of the system development life cycle wherein the information and information processing services needed to support select objectives and functions

Figure 1. The off-shore software development model



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