Chapter IX

Improving Quality through the Use of Agile Methods in Systems Development: People and Values in the Quest for Quality

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Abstract

We introduce, define, and elaborate on agile development methods and how quality information systems are created via the values and practices of people using agile approaches. Key differences among agile methods, the SDLC, and other development methodologies are covered and suggestions for improving quality in IS through agile methods are given. We recommend adopting the principles of agile methods, encouraging more education about the values of agile approaches, including more types of people in the
Introduction

The traditional approach to analyzing and designing information systems to meet an organization’s information requirements and to ensure quality in a completed information system is structured systems analysis and design. A systems analyst typically uses a methodology that is based on a systematic approach to engage the organization’s systems problems. During interactions with a client organization, the analyst is occupied with identifying problems, opportunities, and objectives; analyzing the information flows in organizations; and designing formal computerized information systems and informal, human procedures to solve problems.

Although technical competence is essential, over the years it has become apparent that systems analysts need oral and written communication skills in order to enable them to interact with a myriad of managers and users, as well as other team members and programmers.

The systematic approach analysts most frequently use is called the systems development life cycle (SDLC). This life cycle is usefully divided into seven phases (some of which can be accomplished at the same time.) The seven phases of the SDLC are comprised of activities undertaken by the analyst to identify information systems problems, opportunities, and objectives; determine information requirements; analyze system needs; design the recommended system; develop and document software; test and maintain the system; and implement and evaluate the functionality of the system through pre-agreed quality measures (Kendall & Kendall, 2005).

Although use of the SDLC methodology (or some variation of it) is responsible for the implementation of thousands of information systems and in spite of the SDLC being the most widely acknowledged, taught, and adopted approach to developing information systems worldwide, it has often been criticized, even among its own practitioners. Their criticisms point to the rigidity of the phases of the SDLC; its insistence on formal process specifications; its clumsy, encumbered response to requests for changes once initial requirements have been derived; and the long gestation period required for a project using SDLC to move from inception through to completion and evaluation.

The objectives of this chapter are to introduce, define, and elaborate on agile methods in comparison with the prevalent structured development methods of
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