Abstract

The bridge between business process and information systems reengineering is all too often missing from the roadmap of reengineering efforts. When process and system engineers get to this transition, they discover a rickety old bridge with steep terrain on either side of a wide chasm. Recognizing this dilemma, we developed the Business Reengineering for Information Technology (BRIT) approach that systematically transitions from business process to information systems engineering. BRIT is designed to handle a wide range of reengineering factors including: "best practices," Commercial Off-the-Shelf (COTS) applications, non-standard business processes, and change situations ranging from continuous improvement to radical restructuring. This proven approach is described here with relevant examples of its applications.

Introduction

Information technology and the systems that support it are key enablers of today's business reengineering efforts. Workflow management systems, COTS business applications, and the Internet are examples of technologies that can offer dramatic improvements in the way businesses can organize and operate. While there has been a focus on ways to change business processes, there has not been a
corresponding emphasis on systems engineering practices to support these changes. The result is confusion and delay as business process reengineering (BPR) efforts transition into systems engineering to develop or reengineer information systems supporting the new process.

In recent years a number of BPR methods have arisen [(Appleton, 1994); (Davenport, 1993); (Hammer and Champy, 1993); (Jacobson, 1994); (Manganelli and Klein, 1994); (Rummler and Brache, 1990); (Scheer, 1994); (Taylor, 1995)]. These methods all agree on certain essentials, such as: getting senior management commitment, organizing around processes instead of functions, identifying process customers as key beneficiaries of reengineering, and using new information technology to achieve significant, measurable improvements. These BPR methods differ on how much quantitative analysis to do, how much current operations should be studied, and how the "magic" of creating the new process happens.

We have found these BPR methods to be remiss on two reoccurring business-technical issues: (1) the timing and impact of selecting COTS software, and (2) ensuring that the information captured and the decisions made in the process reengineering can be easily incorporated into the development process for supporting information systems. Yet the relationship between systems development, usually accomplished through information systems engineering, and BPR is an intimate one. In this paper we describe the BRIT approach as it has been applied to a wide range of business reengineering situations.

**Information Systems Engineering**

A standard information systems engineering (ISE) process includes a series of steps as depicted in Figure 1. Organizations engage in ISE to identify and address new or modified requirements in support of their business processes. Until recently, most ISE efforts focused on the automation support to be provided, and assumed that the business process was fixed -- or subject to only minor modifications. However, with the advent of BPR, process has been shown to be flexible, sometimes subject to significant changes that alter dramatically an organization’s information systems.

**Mapping BPR Results to ISE Process**

We describe here how we incorporate these important, practical issues into a manageable business reengineering approach, called BRIT. We begin by observing that BPR goes "in front of" ISE in the sense that it determines issues that ISE takes as given, or "fixed," such as the business goals, policies, processes, and the computing infrastructure.