

## Chapter 3

# Organizational Change, IT and Business Process Redesign

**Claudio Petti**

*Scuola Superiore ISUFI, Università del Salento, Italy*

**Mark Klein**

*Massachusetts Institute of Technology, USA*

### ABSTRACT

*Change in the business environment is pervasive and accelerating. New, agile, and often IT-based organizational forms are emerging. Recent management literature has paid a great deal of attention to observing and advocating this kind of organizational change. Relatively little attention has been given, however, to how to deal practically with these changes. How, for example, can companies foster the business process changes necessary to become agile? How can IT be leveraged for this purpose? In the attempt to provide some insights into these issues, this chapter will present a methodology for redesigning and inventing new business processes that relies on a handbook of process models, and is particularly suited to taking advantage of information technology to enable new organizational forms.*

### INTRODUCTION

Organizations nowadays are under increasing pressure to adapt their business processes to relentless technological, political, organizational, and other changes (Davenport and Perez-Guardado, 1999). As a consequence, being flexible and adaptable has become a matter of survival for companies. Under such conditions, being able to rapidly generate good new ideas about how to meet these challenges becomes a critical skill.

A body of process innovation techniques known collectively as Business Process Re-engineering (BPR) has emerged to address this challenge (Armistead and Rowland, 1996; Chen, 1999; Davenport and Short, 1990; Hammer, 1990; Grover et al., 1995; Hammer and Champy, 1993; Kettinger, Teng and Guha, 1997b; Kubeck, 1995, 1997; Nissen, 1998, 1999; Pandya and Nelis, 1998). Despite the widespread use

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of these tools, however, many process innovation initiatives fall short of delivering the hoped-for results. While they typically aim for revolutionary change, they often result in only incremental improvements (Stoddard and Jarvenpaa, 1995).

We can understand why this is so by considering the nature of current BPR techniques. While there are plenty of techniques (such as IDEF, Process Flowcharting, Statistical Process Control and so on) for modelling and analyzing *as-is* business processes, there are few structured techniques for designing *new* ones (Klein et al., 2003). The design of *to-be* processes is supported only by generic creativity techniques such as brainstorming and visioning, and the results of a redesign are typically highly dependent on the current process as well as the particular backgrounds of the participants.

The methodology proposed in this chapter is designed to address these limitations in existing techniques. The methodology, the fruit of a decade-long MIT research effort known as the *Process Handbook project*, is based on acquiring an abstract model of just the *core* activities and dependencies in the existing process, and then engaging in a structured and systematic exploration of process alternatives, utilizing for inspiration a large repository of best-practice business process models, i.e. a *Process Handbook*.

This chapter will present this methodology. We will begin with a brief description of how this methodology differs from traditional process redesign techniques, and review the key concepts on which it is based: Process Specializations and Inheritance, Dependencies and Coordination Mechanisms, Exception and Handlers. We will then use the case of a real-life risk management process to illustrate the steps of the methodology and demonstrate how some of its concepts (such as inheritance and exception handling) can be used to design more effective and robust IT-based processes by enabling easier and more structured gathering of software requirements, reducing the possibility of misunderstandings between IT experts and business people, and reducing software bugs. Finally lessons learned from the application of this methodology to IT-based process redesign will be drawn, and we will provide some perspectives on avenues for further research and improvement of the methodology.

## **BACKGROUND**

Davenport and Stoddard observed, in 1994, that “*the popular management literature has created more myth than practical methodology regarding reengineering*” (Pg. 121). Despite the number of techniques that have been developed over the last decade, many reengineering initiatives still fall short in delivering the radical improvements expected, leading most of the times to incremental results, if not to the outright failure of many promising firm’s organizational change efforts. To paraphrase Stoddard and Jarvenpaa (1995), BPR projects frequently attempt revolutionary – radical - change but because of political, organizational and resource constraints achieve only evolutionary – incremental – implementations.

Investigating the reasons for this inconsistency is an important step in understanding how to foster more effective organizational change. Many possible explanations have accumulated over the last fifteen years of research and practice. A reengineering project can, for example, be too radical, premature or initiated on the wrong business processes. It can be carried out in the wrong way or in the wrong place. Cultural issues, resistance to change and change management may come into play when the initial ambitions and radical innovations announced end up in the far more modest achievements of BPR projects. Looking more closely it can be easily seen that these explanations are mostly related to the way in which the BPR projects are implemented. These problems are still far from being solved so it is our contention that, to improve the situation, it might be wise to broaden the range of the inquiry from

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