

# Chapter VI

## Using Computer–Mediated Groups to Improve University Processes: An Action Research Study in New Zealand

**Ned Kock**

*Texas A&M International University, USA*

**James Corner**

*University of Waikato, New Zealand*

### ABSTRACT

*We describe in this chapter an action research study of a computer-mediated business process redesign (BPR) group in a New Zealand university. The BPR group used an integrated BPR framework, which comprises a group process methodology, called MetaProi, and an asynchronous groupware tool. BPR group members were from two different departments and successfully redesigned two course-related processes. The study reveals some possible effects of computer mediation on groups that are particularly relevant for managers of distributed BPR projects, namely, lower demand for leadership skills, much lower overall running cost, and much lower degree of interaction. No impact on group effectiveness was observed. The study also indicates that computer mediation lowers barriers to and, in turn, fosters interdepartmental communication, which creates a suitable context for the occurrence of other BPR groups involving different departments. On the other hand, the study indicates that those groups lead to more threats to management, an effect that may lead to lack of support from managers for future BPR groups. Finally, the study suggests that strategic BPR groups, as opposed to those dealing with local operational issues, can better benefit from computer mediation when this is combined with face-to-face and other types of vocal interaction.*

## INTRODUCTION

Business process redesign (BPR) has been the basis of several world-class organizational development approaches (French & Bell, 1990; Kock, 2003, 2005, 2006). Common characteristics of these approaches are their high impact on shaping management thinking and their controversial history of success and failure. Also, whether we consider the approaches to increasing domestic and international competitiveness of organizations in the economic Japanese revolution (Deming, 1986; Walton, 1989) or the business process reengineering movement (Hammer, 1990; Kock, 1999, 2005), there seems to be a clear focus on business processes.

There is a large growing body of normative frameworks to redesign business processes (Guha, Kettinger, & Teng, 1993; Harrington, 1991; Kock, 1995, 2006; Kock & Murphy, 2001; Tapscott & Carston, 1993). Those frameworks suggest that the groups that typically carry out BPR share some common characteristics (Kock, 2001a). The groups are typically small, having from 3 to 12 members (Soles, 1994); follow a group process or methodology (King, 1990); and have defined roles (Hammer & Champy, 1993).

The literature on groupware support for groups indicates the potential of groupware technology to augment the efficiency and effectiveness of BPR groups (Brothers et al., 1992; Chidambaram & Kautz, 1993; Clement, 1994; Kock, 2001a, 2005; Nunamaker, Dennis, Valacich, Vogel, & George, 1991; Pietro, 1992; Sheffield & Gallupe, 1993; Sproull & Kiesler, 1991; Wilson, 1991). This potential accrues from some effects observed in computer-mediated groups in the past, such as the following.

- Better support for group activities, such as making communication faster and cheaper, reducing paper flow, recording group discussion data in a more efficient way, and

increasing cross-departmental communication.

- Positive effects on individual behavior, such as reducing participation stress, and making individuals communicate more openly.
- Positive effects on group behavior, such as fostering a more balanced distribution of individual contributions, separating ideas from individuals, reducing repetition of old ideas, and increasing commitment toward group decisions.

The limited amount of empirical research on computer-mediated BPR groups so far, however, contrasts with the potential of groupware technology to support these groups (Kock, 2005; Kock & Davison, 2003). There have been some representative examples of empirical research on groupware-supported BPR or BPR-like groups, such as the study by Pietro (1992) of quality improvement groups, the study by Dennis, Daniels, Hayes, and Nunamaker (1993) of one business process reengineering group, the study by Dennis, Hayes, and Daniels (1994) on business process modeling groups, and the more recent study by Dennis, Carte, and Kelly (2003) of business process reengineering groups. These studies, however, have focused largely on synchronous groupware tools, predominantly group decision support systems (GDSS). Very few studies addressed the impact of asynchronous groupware-supported BPR groups, most notably those conducted by Kock (2001a, 2005), and Kock and Davison.

In this chapter we try to contribute to filling the research gap above with an action research study of an asynchronous computer-mediated BPR group conducted at SCHOOL (pseudonym), a school of studies at the University of Waikato in New Zealand. This BPR group is an initial step toward the implementation of a campus-wide computer-supported BPR project, and had the first author of this chapter as its facilitator.

The chapter is set up as follows. Initially, a discussion of the BPR framework used is con-

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