



An Examination of the Role of Organizational Enablers in Business Process Reengineering and the Impact of Information Technology

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ABSTRACT

This study examines organizational factors that affect the implementation of business process reengineering (BPR) when applying two specific Information Technologies (i.e., electronic data interchange and/or Internet technology). This research uses a survey methodology to gather information about how organizational enablers and IT affect BPR implementation. By determining the factors that affect BPR implementation, these factors can be managed in the best interest of customers, employees, and organizations. From the nine hypotheses tested in this study, six factors found to be positively associated with successful implementation of BPR. These factors are: top management supports, change management, centralization of decision making, formalization of procedure, organizational culture, and customer involvement. No significant relationship is found between employee resistance and integration of jobs with successful implementation of BPR. In this research we found that the lack of resources is negatively associated with successful implementation of BPR. We also found that, different information technologies such as those examined in this paper — EDI and Internet — provide different capabilities and can be useful in different ways and for different purposes. The findings of this research can help practitioners to better understand the role of critical success and failure factors in BPR, as well as the impact of different Information Technologies on BPR. By determining the factors that affect BPR implementation, these factors can be managed in the best interest of customers, employees, and organizations.

Keywords: business process reengineering; Information Technology; organizational enablers

INTRODUCTION

The concept of BPR was first introduced by Hammer in 1990. Since initiation it has become a popular management toll for dealing with rapid technological and business change in today's competitive en-

vironment. BPR evolved from the experiences of a few US-based companies in the late 1980s (Martinsons & Hempel, 1998). They radically changed their work process by applying modern Information Technology. Report of their dramatically improved performance helped to make reengineering

the American management phenomenon of the early 1990s and its international diffusion.

BPR has been defined and conceptualized in many different ways. The following sample definitions of BPR illustrate the slightly varying views of many researchers and practitioners.

Use the power of modern Information Technology to radically redesign business processes in order to achieve dramatic improvements in performance (Hammer, 1990).

Total transformation of a business; an unconstrained reshaping of all business processes, technologies, and management systems, as well as organizational structure and values, to achieve quantum leaps in performance throughout the business (Goll, 1992).

The process of fundamentally changing the way work is performed in order to achieve radical performance improvements in speed, cost, and quality (CSC Index 1994).

From the practitioner definitions, there are five elements that stand out to form the critical issues that define BPR: (1) BPR consists of radical or at least significant change; (2) BPR's unit of analysis is the business process, not the department or functional area; (3) BPR tries to achieve major goals or dramatic performance improvements; (4) IT is a critical enabler of BPR; and (5) organizational changes are a critical enabler of BPR and must be managed accordingly.

Numerous organizations have reported success from their BPR efforts by containing costs and achieving breakthrough performance in a variety of param-

eters like delivery times, customer service, and quality. For example, Bell Atlantic reduced the time to install new telecommunication circuits from 15 to three days, and cut labor cost from US\$88 to 6 million (Stewart, 1993). Ford Motor reduced its accounts payable staff by 75% with BPR. Motorola, when faced with higher defect percentages and longer cycle times, redesigned its parts and tooling process, simultaneously upgrading its manufacturing equipment; this decreased the total production cost by US\$1 billion per year, and cut cycle time by half (Harrison & Pratt, 1993). Other often cited examples of successful BPR programs including AT&T, Eastman Kodak, Hallmark Cards Inc., and IBM Credit, are discussed in some recent works (Aggarawal, 1997; Ascari et al., 1995). However, not all companies that undertake BPR effort achieve their intended results. Hammer and Champy (1993) reveal that as many as 50 to 70% of organizations that make an effort to employ BPR do not achieve the dramatic results they seek. These mixed results make issues of BPR implementation especially important. BPR has great potential for increasing productivity through reduced process time and cost, improved quality, and greater customer satisfaction, but to do so it must be implemented and managed in the best interest of customers, employees, and organizations.

PURPOSE OF THE STUDY

Despite the importance of BPR, research on this subject is not yet firmly established or well structured. Most studies on this subject are either conceptual or case studies. Those case studies usually describe the success of BPR efforts in situations where variables are not defined. Therefore, it is difficult to say what are the critical success and failure factors of BPR. Fur-

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