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The strategic evaluation of candidate business process reengineering projects

Joseph Sarkis^{a,*}, Adrien Presley^b, Donald Liles^b

^aGraduate School of Management, Clark University, 950 Main Street, Worcester, MA 01610-1477, USA

^bAutomation and Robotics Research Institute, 7300 Jack Newell Blvd. South, Fort Worth, TX 76118, USA

Abstract

The evolution from a focus on product design to one on process and product design in improving organizational competitiveness has included the development of a field of study called business process reengineering (BPR). BPR is an organizational development tool that requires a number of stages of analysis, design and implementation. The literature in the past few years has provided a number of tools and techniques to aid in BPR efforts. One area in this relatively new organizational change philosophy that has not received much attention is the selection or prioritization of a set of candidate business processes or projects that should undergo reengineering. Since business processes by definition are elements of a broader strategic system, the candidate evaluation and selection process must be strategically oriented. To aid in this evaluation process a strategic multiattribute evaluation and justification framework and methodology is presented. The methodology includes an activity based analysis and linkage of traditional (financial) and strategic considerations. The evaluation methodology may also have implications for post-implementation evaluation of BPR projects and other phases of BPR.

Keywords: Business process reengineering; Strategic evaluation; Multiple criteria decision making

1. Introduction

The seminal works of Davenport and Short (1990) and Hammer and Champy (1993) have helped advance the evolution of organizational improvements from a focus on product-based competition to one that incorporates both product and process oriented strategies. Their works formally integrated many business improvement philosophies from the fields of industrial engineering, information technology and organizational devel-

opment into the area of business process improvement and reengineering (BPR).

BPR was needed to help organizations go beyond the standard total quality management philosophies of incremental improvements to radical improvements. This philosophy was driven by increased global competition where major improvements in business processes were required merely to achieve competitive parity. The process of BPR is currently undergoing various refinements, since no one approach may be applicable to all environments. Tools to aid in the BPR process are still being developed. These tools range from evaluation, design and analysis, to those that aid in

*Corresponding author. Tel.: (508) 793-7659; e-mail: jsarkis@clarku.edu.

implementation and review of BPR projects. BPR, which has for the most part been viewed as an operational set of events, needs to be viewed as a strategic program. The BPR toolset needs to support this strategic view.

BPR will have short- and long-term implications for an organization. In addition, any process that is to be reengineered will not only have an impact on the function that has direct control over that process, but other functions that will necessarily support the reengineered process. These two characteristics point to a strategic change for the organization. Thus far the technology and tools to aid in the BPR process have focused on what occurs to the process after it has been selected for reengineering.

Evaluation of which project to select or pursue for reengineering has not received much attention in the literature. Whether the processes to be reengineered are the “core” or supporting processes makes little difference. Which process or set of processes to select for reengineering implementation will depend on factors that are strategic, operational, tangible and intangible. Simple cost/benefit and financial analysis criteria may be inadequate for such strategic analysis.

In this paper, a methodology and supporting framework for evaluation and selection of processes for BPR implementation is presented. A brief

background on the BPR literature related to selection of processes/projects for reengineering sets some foundation. The methodology is detailed along with an illustrative example. A discussion on the methodology and related conclusions and extensions completes the article.

2. Business process reengineering environment

The integrated concept of transforming and improving the enterprise has been defined as enterprise engineering (Sarkis et al., 1995). A consensus enterprise engineering transformation framework, developed from literature and field study, is shown in Fig. 1. This framework is designed using the IDEF0 modeling technique. The framework is comprised of four major activities (shown by the boxes). These activities are:

- A1. Develop vision and strategy,
- A2. Change culture,
- A3. Integrate and improve the enterprise,
- A4. Develop technology solutions.

The systemic interrelationships among these activities are modeled with the arrows. That is, arrows that flow into the left side of the boxes are inputs to be transformed by the activities, those arrows that flow out of the right of the boxes are

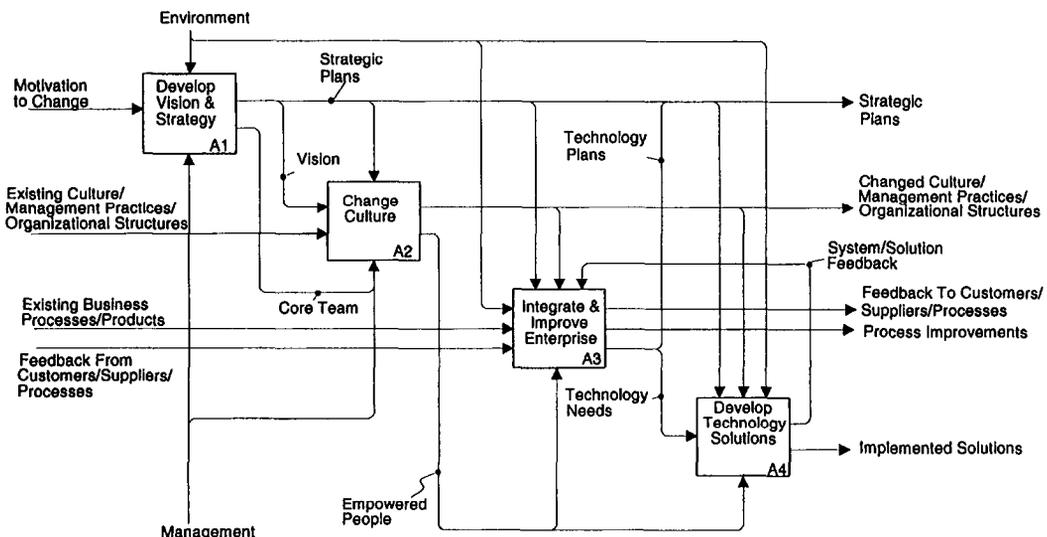


Fig. 1. High level functional model of enterprise engineering methodology.

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