Implications for the Role of Information Systems in a Business Process Reengineering Environment

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Organizations are increasingly adopting business process reengineering (BPR) initiatives to achieve multiple performance improvements through fundamental reengineering of work. Because of their expertise, techniques, and style of thinking, IS experts are well positioned to play a significant role in supporting and leading, when appropriate, many of the activities throughout reengineering projects. This role may include, but is not limited to, managing complex large-scale BPR projects, identifying and maintaining a technological vision in support of BPR efforts, developing process-oriented information systems, and managing the ongoing changes in business processes. Implications for such a role include repositioning IS to have business, customer, and information orientations, reinventing its activities, and resharpening its skills to properly function in such a new environment.

Organizations are attempting to adapt to ever-changing economic and competitive conditions by improving customer service, reducing cycle time, flattening the organizational structure, empowering employees, forming new alliances with external forces, and investing in new technologies. Many organizations have adopted business process reengineering (BPR) as the approach to achieve such radical changes. Successfully utilized, BPR results in major improvements in performance by changing the organization's structure, its processes, its people, and its culture, and the way it operates (Tapscott & Caston, 1993, p. 207).

Although the advent of such changes poses a challenge to virtually all groups in the organization, the challenge is particularly pertinent to the information systems (IS) group (King, 1993). BPR relies heavily on the power of information technology (IT) and systems to change the way the work is done (e.g., Hammer, 1990; Hammer & Champy, 1993a, 1993b; Tapscott & Caston, 1993; Davenport, 1993, 1994). Consequently, BPR has become one of the critical issues for IS executives in the 1990s (e.g., Cafasso, 1993; Alter, 1994; Moad, 1994; Revenaugh, 1994).

Given the skills and tools of its experts, the IS function is well positioned to play a major role in initiating and implementing BPR efforts. While the enabling role of IT is widely discussed in BPR literature, little is said regarding the potential role of the IS function in a BPR environment. The purpose of this paper is to elaborate on specific examples of such a role and its implications on the IS function. In this discussion, IS is viewed as a component of the enterprise which provides the internal clients and external customers with products, services and capabilities through the use of IT.

BPR: A Background

Organizations need to reinvent themselves and develop strategies critical to achieve competitive advantages (Hayes & Pisano, 1994). One way to achieve such an objective is to create small organizational units that include all the activities

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necessary to complete a task (Child et al., 1991). BPR involves
the examination and alteration of a system to reconstitute it in
a new form. It rejects the assumptions inherent in Adam
Smith's industrial paradigm—the division of labor, economies
of scale, hierarchical control, and all other related roles and
principles of an early-stage developing economy. BPR calls
for searching for new models for organizing work. It suggests
abandoning the existing functional structure altogether, and
redesigning the organization itself—or at least key parts of it—to
better fit the new reality (e.g., Hammer, 1990; Huff, 1992;
Hammer & Champy, 1993a; Moad, 1993; Vogl, 1993; Dixon
et al., 1994).

BPR is viewed as the fundamental rethinking and radical
redesign of the business processes to achieve major improve-
ments in performance measures such as cost, quality, service,
flexibility, and responsiveness (Fried, 1991; Hammer &
Champy, 1993a, p. 32). Reengineering demands performance
improvements along new dimensions (Dixon et al., 1994). Thus,
BPR results in a fundamental transformation in a business
—the way it operates, its structure, its business processes,
its people, and its culture (e.g., Tapscott & Caston, 1993, p.
207; Caron, 1994; Scott, 1995). Davenport (1993, p. 2),
however, views reengineering as only part of what is neces-
sary in order to radically change processes. He argues that
"process innovation" efforts target the achievement of radical
improvements in the performance of the process through the
use of innovative tools and work designs. It also encompasses
the envisioning of new work strategies, the actual process
design activity, and the implementation of the change in all its
complex technological, human, and organizational dimen-
sions.

Whether it is called process redesign, process innova-
tion, process engineering, or process reengineering
(Revenaugh, 1994), the goal of BPR is to achieve performance
breakthroughs by applying innovative ways of doing business.
BPR aims at simplifying every cycle of activity within a
business by eliminating non-value added steps and reducing
the number of actions in each process. BPR requires the
definition of a vision, the creation of new structures, the
development and implementation of the new designs, and the
establishment of feedback and continues improvement sys-
tems.

Although there is universal agreement on the common
objectives of BPR efforts, the details of a specific method or
approach to performing its activities may vary from one
initiative to another (Scott, 1995). This variation can lead to
overlooking variables that are critical to the success of BPR
projects. Recent BPR literature (e.g., Fried, 1991; Davenport,
1993; Hammer & Champy, 1993b; Tapscott & Caston, 1993;
Khalil, 1995) suggests seven key activities (or phases) that are
critical to successful planning and implementation of BPR
projects. These activities are: (a) assessment of the
organization's readiness for change, (b) identification and
prioritization of problematic business processes, (c) identifi-
cation of change enablers (i.e., IT), (d) analysis of business to
establish links between its strategy and the visions of the
identified process, (e) analysis of the process, (f) design of the
new process, and (g) implementation and management of the
new process.

Although the undertaking of the large scale BPR projects
poses a challenge to virtually all groups in the organization, the
challenge is particularly pertinent to the IS group. Because of
their expertise, techniques, and thinking style, IS experts
are well positioned to play a major role in support of many of
the activities throughout the reengineering project (i.e.,
Davenport, 1993; Martinez, 1995; Tapscott and Caston, 1993).
Hence, BPR has become one of the most critical issues for IS
executives in the 1990s (e.g., Moad, 1994).

**IS Role in BPR**

While there is a universal agreement on the critical role
of the IS function in the success of BPR efforts, experts are still
debating the nature of such a role. To some, the unique role and
relationship of IS with the various business units of an organi-
ization make it the perfect business strategy leader (Tapscott &
Caston, 1993, p. 220); and empirical evidence provides some
support for the view of the leading role of IS in BPR practices
(e.g., Cafasso, 1994; Jovanovic & Mrdalj, 1994). Normally,
no other function in an organization has such unique duties and
license to cross functional boundaries and to drive change as
IS has. In the course of systems planning or data modeling
projects, IS experts can identify and expose the problematic
aspects of current processes and make business executives
aware of them.

On the other hand, some experts assert that IS can not and
should not play a leadership role in BPR (e.g., Gillin, 1992;
Huff, 1992; Wilder, 1992; Moad, 1993; Tapscott & Caston,
1993, pp. 219-220; Alter, 1994; Maglitta, 1994a; Menagh,
1994; Martinez, 1995). BPR is essentially a learning enter-
prise that must be undertaken by those who will learn to work
together differently. IS simply does not possess the necessary
power, and often also lacks sufficient corporate good will and
trust to lead such a project. In addition, BPR is not primarily
a technological project. Thus, IS should not be a driver of BPR
or aspire to run reengineering projects. Instead, it should
expect to be a part of the teams that lead these projects.

Nevertheless, IS has an important role to play in the
completion of the activities throughout the BPR life cycle as
well as in the redesign of the processes and their supporting
systems. IS should be a partner that can provide education,
support, and leadership, when appropriate. Top executives
should ensure an essential role for IS in providing valuable
expertise and guidance in BPR projects. The significance of
such a role is not just because of IS experts' technical skills,
Michael Hammer underscores, but because of their style of
thinking, which supports both IS work and BPR approach
(Maglitta, 1994a). IS experts understand the organization's

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