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Reengineering by Any Other Name: Where Are We Now?

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Abstract

In today's business media, references to business process reengineering (BPR) often refer to "the reengineering movement of the 1990s." In fact, reengineering tools and techniques continue to evolve, and are now deployed across a broad range of companies and industries. This is newsworthy only because managers, practitioners and scholars have rebranded or invented a wide variety of kinder, gentler names for the practice.

This paper examines the historical roots of business process reengineering, the current state of reengineering and its offshoots, and emerging trends that will lead to future developments in the business process arena. Specific areas for future research are identified, including the need to develop a unifying framework for business process theory and practice.

1. Introduction

The rudimentary tools and techniques of business process reengineering (BPR) were born of necessity in situation-challenged companies during the 1980's. Leading consultants and scholars discovered the phenomenon (Davenport 1990, Hammer 1990), gave it a name (Hammer 1990), developed and publicized the concept (Hammer and Champy 1993, Champy 1995, Hammer and Stanton 1995, Hammer 1996) and saw their creation become the dominant business transformation vehicle of the 1990's (McIntosh 2003).

As explained in more detail below, BPR as a marquee topic followed a boom and bust cycle. Early high-profile success stories were followed by accounts of reengineering failures (Hammer & Stanton 1995, Mumford 1996) and articles contending that BPR was merely an application of existing tools and techniques (Mumford 1994, McIntosh 2003). BPR was associated—often incorrectly—with aggressive corporate restructuring (Hammer and Stanton 1995, Case 1999). The volume of peer reviewed articles on BPR diminished greatly by 2001 (McIntosh 2003). In current business media and popular management books, references to BPR often refer to "the reengineering movement of the 1990s" (Jackson 2001).

In fact, however, the tools and techniques used in BPR are widely used today, and the body of knowledge devoted to business processes continues to expand. The reconciling fact is that many BPR efforts continue under different names—in effect having been rebranded (McIntosh 2003) or executed under entirely different program names (Yung and Chan 2003, Attaran 2003, Schubert, 2007). In addition, several offshoots of BPR are being applied and

developed under different banners (Gunasekaran and Kobu 2002, Alfaro et al. 2007, Smith and Fingar 2007) and offer potential benefits to companies that apply them.

The following sections of this paper examine the historical roots of business process reengineering, the current state of reengineering and its offshoots, and emerging trends that will lead to future developments in the business process arena. Specific areas for future research are identified, including the need to develop a unifying framework for business process theory and practice.

2. Classic Business Process Reengineering: Literature Review

At this point, it is useful to define two important terms.

A *business process* is a group of activities that take inputs, and create output that is of value to the customer. The customer of a process may be external to the company, or an internal user of process output (Hammer and Champy, 1993).

Business process reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvement in critical performance measures such as cost, quality, service, and speed (Hammer and Champy, 1993). As detailed below, some scholars and practitioners have diluted or failed to embrace the radical character the technique—but the emphasis on *drastic* rather than *incremental* change is the essence of BPR.

BPR has been described as an extension of the Total Quality Management movement (Case 1999). The rudiments of the BPR methodology were developed in certain large companies that experienced severe competitive challenges during the 1980's; these companies found it

necessary to move beyond a continuous improvement model (Davenport and Short 1990, Hammer 1990).

The two seminal works in the BPR field were published almost simultaneously in 1990 (Davenport and Short 1990, Hammer 1990). Interestingly, both articles discuss process changes at Ford Motor Company and Mutual Benefit Life Insurance (Davenport and Short 1990, Hammer 1990). Hammer's Harvard Business Review article was titled *Reengineering Work: Don't Automate, Obliterate*, and described BPR as a new approach to the design of business processes and structures (Hammer 1990). The Sloan Management Review article by Davenport and Short was titled *The New Industrial Engineering: Information Technology and Business Process Redesign* (Davenport and Short 1990). Davenport and Short described business process re*design* as an extension of industrial engineering techniques to non-manufacturing areas of the enterprise, and emphasized the use of information technology (Davenport and Short 1990).

These initial articles were followed by Hammer and Champy's 1993 business blockbuster, Reengineering the Corporation: a Manifesto for Business Revolution. This work, which introduced BPR to business literati, became the best-selling management book of the 1990's (Biazzo 1998) and was instrumental in making BPR the most influential management concept of that decade (Case 1999). This work, which introduced BPR primarily through gripping anecdotes, was followed up by a volume devoted to BPR tools and techniques (Hammer and Stanton 1995), and a book that unpacked the process enterprise concept and predicted that broad social changes would flow from the spread of process-centric management techniques (Hammer 1996).

In the wake of anecdotal reports of drastic performance improvement, such as order fulfillment time cut by 60-90% and product development time cut by 75% (Hammer and Stanton 1995), BPR became almost as popular in the 1990's as the Beatles were in the 1960's. In addition to spawning numerous articles in the business press, BPR was the subject of a surge in academic interest, with an average of over two hundred BPR articles per year published in peer reviewed journals from 1995 until 1999 (McIntosh, 2003). One summary of studies conducted in the United States and the United Kingdom between 1992 and 1994 indicated a BPR adoption rate in excess of 50% among the corporations studied (Grint and Willcocks 1995, McIntosh 2003).

And then the bad news began to emerge. With many companies adopting BPR without adequate training or preparation (Hammer & Stanton 1995, Mumford 1996), BPR project failure rates as high as 70% were reported (Hammer & Stanton 1995, McIntosh 2003). Some scholars contended that BPR was not really a new technique (Mumford 1994, McIntosh 2003), that it was an unrealistic construct that could only be executed by a de-humanized, robot-like workforce (Biazzo 1998), and that BPR was a self-serving enrichment vehicle for greedy consultants, sold with techniques borrowed from charismatic evangelists and amoral salesmen (Case 1999).

Concurrently with these revelations, the general public was reacting adversely to reports that many large corporations were undergoing radical restructuring, eliminating thousands of jobs for the sake of short-term profit to the detriment of long-term value creation (Byrne 1999). The most extreme corporate downsizings were not related to BPR projects, but reengineering (which starts with the same two letters as "restructuring") came to be linked with downsizing in the mind of the general public (Case 1999).

The extent of this misunderstanding can be appreciated upon examination of the body of work of one Albert J. ("Chainsaw Al") Dunlap, the most well-known downsizing practitioner of the 1990's (Byrne, 1999). In Mr. Dunlap's 304-page 1996 autobiography, he mentions reengineering only twice: once in reference to minor changes in a small production operation, and once to dismiss business process reengineering as "consultant speak." (Dunlap and Andelman 1996). In Mr. Dunlap's autobiography and in Byrne's (1999) chronicle of Dunlap's career, Mr. Dunlap's techniques were always characterized as cost-oriented restructuring and never as business process reengineering (Dunlap and Andelman 1996, Byrne 1999).

The confluence of low reported success rates, scholarly naysaying, and misplaced public pushback led to widespread disenchantment with BPR as the new millennium began. But as the next section explains, BPR did not die—it merely went underground. Committed practitioners and scholars continue to apply lessons learned from BPR successes and failures, and continue to develop the reengineering tools and techniques—but often under banners other than "business process reengineering."

3. Current Practice: Reengineering by Any Other Name

As explained and supported below, the lessons learned from BPR are still being applied in practice and extended by scholars today.

In addition to the post-2000 peer-reviewed articles cited below with respect to new names and techniques, articles dealing specifically with BPR are still published (Herzog et al. 2007, Albadvi et al 2007, Hesson et al. 2007). In addition, published articles primarily focused on

other topics often mention reengineering in passing as an extension or follow-up item (Amini et al. 2007).

But social backlash and the stigma associated with failed BPR projects has caused reengineering to "go underground." The technique has effectively been rebranded (McIntosh 2003). The tools and techniques of BPR are now being applied under labels that are either (a) kinder, gentler terms chosen to deflect emotional response to the term "reengineering," or (b) technically distinguishable from BPR due to the focus on a specific variant or subset of the reengineering methodology.

The following reincarnations, progeny, and offshoots of BPR are examined below:

Business reengineering

Flexible reengineering

Business Process Redesign

Process Excellence

Business Process Modeling

Business Process Measurement

The Process Enterprise

Business Process Management

This is not an exhaustive list, as new euphemisms emerge frequently. Examples include operational excellence (Rehman 2007), business process optimization (Panico and Richard 2006), process synchronization (Terry et al. 2004), and process alignment (Evans and Jukes 2000).

3.1. Business reengineering

Business reengineering is a term that connotes reengineering of the entire enterprise—perhaps in the context of portfolio management—rather than a focus on individual processes within the business (Herzog 2008). Researchers have called for proposed reengineering projects to be designed and implemented to support enterprise strategy (Sarkis et al. 1997, Wu 2002).

3.2. Flexible reengineering

One thread of academic debate deals with the issue of whether BPR must involve "radical" redesign as per the classic definition (Hammer and Champy, 2003), or whether techniques more closely resembling continuous improvement can be incorporated in the reengineering tool set. One semantic solution to this impasse is a variant called "flexible reengineering," which was proposed by Yung and Chan (2003). This can be regarded as a face-saving way to rebrand BPR given that Hammer and Stanton (1995) recognized early on that many companies adopted BPR without adhering to the radical dogma of the discipline.

3.3. Business Process Redesign

Business process redesign was the term originally applied to the BPR phenomenon by Davenport and Short (1990). This term has been used more commonly in recent years. It can refer to a subset of an overall BPR project, distinguishing the design phase from the pilot project or full implementation phase (Attaran 2003). It can also be used as a softer term for business process reengineering, and in fact has been used that way by Hammer in some of his more recent work (Hammer 2007a).

3.4. Process Excellence

Process excellence is most often encountered as a synonym for business process reengineering that can include the full BPR tool set without invoking the knee-jerk reaction of

the original term; it has been used in this way in the context of a survey of software projects (Schubert, 2007).

3.5. Business Process Modeling

Business process modeling, which has garnered increasing attention since the introduction of BPR, is sometimes referenced with regard to graphic representation of business processes (Giaglis, 2001), and at other times with regard to simulation modeling of business processes (Gunasekaran and Kobu 2002, Amini et al. 2007, Chatha et al. 2007). Different business process modeling techniques of various types are used today, which highlights the difficulty in developing an all-purpose modeling methodology for business processes (Gunasekaran and Kobu 2002).

3.6. Business Process Measurement

Business process measurement is a prominent feature of the classic BPR tool kit (Hammer and Stanton 1995), and it has emerged as a self-contained sub-discipline (Kuwaiti 2004, Alfaro et al. 2007, Hammer 2007b).

3.7. The Process Enterprise

The concept of the *process enterprise* was developed by Hammer (1996); this involves adopting a management model with an emphasis on the management of end-to-end cross-functional business processes rather than the traditional emphasis on the functional organization chart. It is reported that many companies are working to adopt this structure, which requires the vesting of significant management authority in *process owners* and a *chief process officer* (Hammer 1999). The academic literature includes references to companies that have adopted the process enterprise model but rolled back to a functional structure after experiencing various

forms of resistance (Silvestro and Westley, 2002). Hammer's (2007a) introduction of the Process and Enterprise Maturity Model, discussed more fully in Section 4 below, is intended to provide an implementation methodology and tool set for the transition to the process enterprise structure.

3.8. Business Process Management

This term was originally coined to refer to life after business process reengineering, including the ongoing management and improvement of reengineered processes after the sea change (Armistead and Machin, 1997). More recently, business process management has become a sub-discipline that encompasses a full range of integrated technical tools for business process (re)design, graphic process representation, process simulation modeling, and process transaction execution (Sun et al. 2006, Smith and Fingar 2007). Business Process Management (BPM) is discussed more fully in Section 4, below.

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As noted above, many of the tools and techniques previously applied in the context of BPR have been renamed, and some have become sub-disciplines in their own right. For clarity and conciseness, we will refer to these collectively as *process* techniques in the remainder of this paper.

4. Process in Motion: Future Research Directions

As noted above, research continues on many fronts in the process arena. This section addresses significant trends in process-related research, and identifies areas in which more research is needed.

4.1. Business Process Management: Realizing the Promise

As observed by Smith and Fingar (2007), business process management (BPM) software development currently commands significant attention from industrial companies, software publishers, and scholars. The objective of BPM software developers is to embed business process reengineering and related principles in broadly applicable technical tool sets (Smith and Fingar 2007). The ideal BPM software suite would support business process (re)design, graphic process representation, process simulation modeling, and process transaction execution—all across an extended virtual enterprise with supply chain partners sharing standardized process definitions and transaction data (Smith and Fingar 2007).

At this point, an omnibus BPM suite capable of supporting diverse supply chain participants is an attractive but amorphous dream. Advances in theory and technical subsets of BPM are frequently reported in journals dedicated to BPM (Al-Mudimigh 2007, Fettke and Loos 2007, Küng & Hagen 2007). But prototypes, pilot projects, field testing, case studies, and action research will be needed to validate even the sub-components of the technology before BPM can become an effective tool for supply chain integration.

4.2. Process Enterprise: the Implementation Challenge

The process enterprise concept was introduced in the 1990's (Hammer 1996). Since that time, some companies have attempted to shift their management orientation from the traditional functional model to a process-centric model, and have achieved mixed results. In one reported

case study, an electronics manufacturer and a large retailer each adopted a process enterprise management structure, and then rolled back to a functional structure within two years (Silvestro and Westley 2002). Discussion of the process enterprise model frequently includes a comparison to the matrix management structure, and it has been suggested that the matrix structure is a viable alternative to the more extreme process enterprise structure (Silvestro and Westley 2002).

In an article published in April of 2007, Hammer introduced the Process and Enterprise Maturity Model (PEMM). The PEMM is a diagnostic tool and roadmap designed to guide an enterprise through four stages of maturity—in five process-specific enablers, and four enterprise-wide characteristics—in the transition to the process enterprise model (Hammer 2007a).

The PEMM has strong conceptual appeal, but as a new construct it has yet to be widely deployed and validated. Empirical research, including case studies and possibly action research, will be useful in evaluating this potentially powerful tool set for business process redesign/implementation and enterprise process transformation.

4.3. Process Standardization: Herding the Cats

In a 2005 article, Davenport predicted that process standardization across companies and industries would soon progress to the point where processes would become commoditized—ceasing to serve as differentiators for companies, and paving the way for seamless inter-enterprise operability (Davenport 2005). Realizing process standardization is one of the challenges of supply chain integration via business process management software (Smith and Fingar 2007).

Process standardization tools and models have been developed and promulgated by various entities, including the Massachusetts Institute of Technology, the American Productivity

and Quality Center, and the Supply Chain Council (Davenport, 2005). At this point no single multi-industry process standardization model enjoys widespread acceptance, so significant work would be needed to reconcile the existing process standards—or to create a new (dare we say reengineered?) process standardization model.

Process standardization could lead to significant breakthroughs in supply chain collaboration but, like other elements of the BPM tool set, requires further development and validation. Empirical research, including prototypes, pilot projects, field testing, case studies, and action research will be useful in advancing the standardization of processes.

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In some ways, the process train has come full circle. Hammer and Davenport are again leading the pack with new concepts, such as the Process and Enterprise Maturity Model (Hammer 2007a) and process commoditization (Davenport 2005) as they did in the early 1990's (Hammer 1990, Davenport and Short 1990). In a pragmatic act to move away from the radical rhetoric of business process reengineering, Hammer's more recent work tends to use the term "business process redesign," (Hammer 2007a) which was Davenport's initial name for the phenomenon (Davenport and Short 1990). It is safe to predict that practitioners and scholars will continue to build on the ideas of Hammer and Davenport in practice and in theory.

5. Process Research: In the Pipeline

As the foregoing analysis shows, business process reengineering has been rebranded, and several process-related disciplines are being pursued under different banners. These activities

share many common elements, but that fact is obscured by differing nomenclature. This terminology diffusion may prevent practitioners and academics from leveraging advances in related areas as such advances occur.

This underscores the need for a unifying framework for understanding and integrating the many disciplines that have evolved from BPR. This framework, the Process Relativity Model, is under development and will be the subject of a forthcoming paper.

6. Summary and Conclusions

This paper has addressed the past, present, and future of business process reengineering and its reincarnations, offshoots and progeny. A literature review, beginning with the origins of BPR and tracing coverage through its fall from grace, was followed by an exposition of current activity in fields related to BPR. Emerging trends and promising areas for future research were identified.

Business process reengineering has been rebranded, but many of the tools and techniques initially applied in the context of BPR continue to evolve. Some of these techniques have become sub-disciplines of operations management or other fields, and many offer significant potential benefits to enterprises that continue follow the process learning curve.

While business process knowledge continues to expand on many fronts, terminology diffusion obscures the common elements of work in closely related areas. This underscores the need for a unifying framework to link and classify the many facets of the process body of

knowledge. This framework, the Process Relativity Model, is under development now and will be the subject of a future paper.

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