



Redesigning

ENTERPRISE PROCESSES FOR

e-Business

195

Omar A. El Sawy

Redesigning Enterprise Processes for e-Business

Includes CD-ROM with
Workflow-BPR Process Modeling
Software from Holosofx Inc.

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REDESIGNING ENTERPRISE PROCESSES FOR e-BUSINESS

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PREFACE

PREFACE

This is the decade of redesigning enterprise processes for e-business. While creating a process advantage has always been a formidable strategic weapon for business enterprises, a new urgency for a different form of business process redesign or reengineering (BPR) has been ignited by e-business.

At this writing I cannot imagine any career in line management that will not require basic skills in BPR for e-business. Whether you are in a start-up that is trying to design new marketing processes around the Internet, or in a large traditional brick-and-mortar enterprise that is redoing its supply chain for e-business, or in a Big 5 consulting company with an electronic commerce practice, or in a nonprofit company that is restructuring web-based customer service, or whether you work in Stockholm or Singapore, you will definitely need skills in BPR for e-business. The career advancement opportunities that it opens are endless.

As we enter the 21st century, the rapid progress in the capabilities of the Internet and information technology infrastructures are enabling enterprises to create value in new and exciting ways. In this customer-centered high velocity environment an enterprise's business processes must be fast, focused, and flexible. Business-to-business electronic commerce is coming together with physical supply chain management and is coalescing into an information-rich combination called e-business. Moreover, the focus of business process redesign has shifted to include cross-enterprise processes partly executed by one enterprise and partly by another. Competitive pressures and value creation opportunities have never been greater for enterprises to redesign their business processes.

In such an environment, business professionals need to learn how to describe, analyze, diagnose, and redesign a business process through robust BPR methodologies and tools. In an era of e-business, redesigning a business process involves more than restructuring the workflow. It also involves changing the information flows around the business process and changing the knowledge management capabilities of the process by harnessing the collective intellectual assets around it. This book is targeted to the practicing or future business professional who would like to learn how to carry out such BPR in e-business settings.

There are many books and ‘how’ articles on the ‘why’ and the ‘what’ of BPR. However, that is not the case with the ‘how’ of BPR, and especially not in the case of e-business. There are also many books and articles about managing the organizational change efforts that are needed to make the implementation of BPR successful. There is, however, noticeably much less publicly available about the nitty-gritty of the how that is needed to redesign and improve business processes. The how of design appears to be kept within the proprietary domain of consulting companies and is relatively unarticulated and underdeveloped in the public domain. Existing books provide little hands-on progressive experiential learning. Neither do they provide a *business-oriented BPR software tool* and an accompanying step-by-step BPR methodology to enrich the quality of the learning experience. Most importantly, at this time there are no books that address these BPR issues in an e-business context. This book is designed to fill all these gaps.

This book prepares you to be a full-fledged participant in any process redesign effort for an enterprise in this era of e-business. It provides basic understanding of business process redesign concepts, a how-to guide for redesigning business processes, and accompanying business process modeling software on CD-ROM. The software is a limited version of a leading-edge commercial software package, Workflow-BPR Modeler from Holosofx Inc. that runs on any standard Windows-based personal computer. This book also provides a series of case studies and examples based on real company experiences that the engaged reader can work through with the software. In addition, the book provides a supply chain view of business processes that is geared to e-business. The book is also augmented with updates and tips accessible through McGraw-Hill’s Internet website.

This book can be used in classroom settings, on the job, and in a self-guided learning mode. It assumes only that the reader/learner has an intelligent understanding of how a business works and that he or she has basic point-and-click computer literacy in order to use the software and navigate through it. For university classroom settings, the book is designed to be used in business process reengineering courses that want to be relevant to current e-business settings; in electronic commerce and e-business courses that want to provide concrete process redesign methods for e-business; and for supply chain management courses geared to e-business. The book is also helpful for courses in these topics that include actual field projects during the course of the semester.

Whether your passion and interest is business process consulting, e-business, information systems, electronic commerce, operations, or supply chain management, this book is geared to prepare you to be a full-fledged participant in BPR and e-business initiatives. Go conquer!

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This book could not have been completed without the help, support, patience, and encouragement of many people. One “Big Thank You” is to my wife Hana and our children Nada, Hassan, and Kareem who patiently (and usually lovingly) endured the making of a book that had its starts and stops. The other “Big Thank You” is to my good friend Hassan Khorshid, CEO and president of Holosofx who shared insights and made available the expertise of Holosofx and the software that comes with this book for

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Manhattan Beach, California

NAVIGATION GUIDE TO USING THIS BOOK

The book is divided into two parts:

- **Part A: Understanding BPR for e-Business** Part A provides a general understanding of the concepts and issues of business process redesign (BPR) in the context of e-business.

- **Part B: How to Redesign Enterprise Processes with BPR Software** Part B provides a step-by-step progression of how to redesign enterprise processes and supply chain processes with BPR software through examples. Part B takes advantage of the Holosofx Workflow BPR software on CD-ROM that comes with the book.

Part A consists of three chapters.

Chapter 1: Introduction to BPR for e-business

Chapter 1 provides an introduction to BPR and e-business and their relationship to how business enterprises go through organizational change. It provides an overview of how BPR projects work and also provides a general orientation and introduction to the book.

Chapter 2: Key Issues around BPR and the Evolution of BPR for e-Business

Chapter 2 provides a general survey of the concepts and perspectives around the evolution of BPR for e-business. The first part of the chapter presents the key issues around BPR by examining what we learned from the first wave of BPR in the early to mid-1990s. The second part of the chapter presents the issues around the evolution of BPR in its second wave in the late 1990s in order to better understand the direction of evolution of BPR for e-business. The structure of the chapter is in a question-and-answer mode to allow the reader to flexibly navigate through it and also to refer back for reference.

Chapter 3: Principles and Tactics of Process Redesign for e-Business

Chapter 3 provides three different sets of principles and tactics for redesigning enterprise processes in e-business situations: principles and tactics for restructuring and reconfiguring a business process (restructuring it), principles and tactics for changing the information flows around a business process (informing it), and principles and tactics heuristics for changing knowledge management around a business process (minding it). The principles and tactics are illustrated through many current examples.

Part B consists of five chapters that progressively go through the phases of business process redesign for enterprise processes and supply chain processes in the context of e-business.

Chapter 4: Scoping an Enterprise Process

Chapter 4 explains through a detailed real case study what needs to happen at the front end of enterprise process redesign (the scoping phase). It provides steps, methods, and templates.

Chapter 5: Foundations of Business Process Modeling and Analysis with BPR Software

Chapter 5 is the process modeling chapter. It provides the foundations of business process modeling and analysis with BPR software. It explains what BPR software is and provides a hands-on initial familiarization with the Holosofx Workflow·BPR software that comes with the book. This is done by working through a case example using the software. Finally, it provides guidance for readers who want to further ramp up their modeling skills.

Chapter 6: Analysis and Redesign of an Enterprise Process

Chapter 6 explains through a detailed case example the different methods of process analysis and redesign for enterprise processes while taking advantage of the Workflow·BPR software capabilities. It explains the steps in the modeling, analysis, and redesign phase. It shows how to compare “as-is” and “to-be” process designs through weighted average analysis and what-if simulation scenarios.

Chapter 7: Designing Collaborative Supply Chain Processes for e-Business

Chapter 7 takes the business process redesign methodology beyond the enterprise level to the supply chain level. Through a real case example, it shows how to redesign supply chain processes for e-business when there are multiple partners doing business with each other.

Chapter 8: IT Integration Options for e-Business Processes

Chapter 8 briefly describes the different types of IT software platforms that can be used to integrate new or redesigned e-business processes into enterprise architectures so they can be executed. The examination and consideration of these alternatives is the final step before launching organizational implementation. The chapter also reiterates how the focus of Part B of the book fits into the broader perspective of organizational transformation for e-business.

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UNDERSTANDING BPR FOR e-BUSINESS

Part A of the book provides a general understanding of the concepts and issues of business process redesign (BPR) in the context of e-business. It provides an introduction to BPR and e-business, as well as a general survey of the concepts and perspectives around the evolution of BPR for e-business. It also provides principles and tactics for re-designing enterprise processes in e-business situations.

INTRODUCTION TO BPR FOR e-BUSINESS

1-1: INTRODUCTION

1-1-1: What is BPR?

1-1-2: What is BPR for e-Business?

1-2: THE CONTEXT OF BPR FOR e-BUSINESS

1-2-1: The Leavitt Diamond: Understanding Organizational Adaptation

1-2-2: The Evolution of BPR

1-3: HOW DOES A BPR PROJECT WORK?

1-3-1: The Phases of BPR “in-the-BIG”

1-3-2: The Participants in a BPR Project

1-3-3: Cross-Enterprise BPR for e-Business

1-4: THE PROCESS REDESIGN PHASE OF BPR: A DESIGN FOCUS

1-5: REDESIGNING BUSINESS PROCESSES

1-5-1: The Properties of Business Processes

1-5-2: Three Generic IT-Enabled Ways for Redesigning Business
Processes

1-6: THE LEARNING BLOCKS OF BPR FOR e-BUSINESS

WHAT CHAPTER 1 IS ABOUT

The chapter starts by introducing BPR and e-business and their relationship to how business enterprises go through organizational change. It outlines the phases of a BPR project while focusing on the business process redesign phase in particular. The chapter then introduces the key properties of business processes and outlines three different types of redesign heuristics while illustrating the role of information

technologies with examples. The chapter ends with a reiteration of the learning blocks required for acquiring skills in BPR for e-business and describes how this book provides them.

1-1: INTRODUCTION

Sometime in the late 1980s there was a wave of disenchantment with the return on investment in information technology (IT) in much of corporate America. Why had huge investments in IT throughout the 1980s not resulted in corresponding increases in productivity and performance improvement?

There were many explanations given. One set of explanations centered around faulty measurements. They claimed that productivity measurements were too narrowly defined and were flawed when applied to a service economy. They also claimed that the effects of IT on performance improvement were lagging and would take many more years to show up at the aggregate level. A second set of explanations blamed IT itself and how it was being implemented; the culprits included user-unfriendly software, technophobic managers who did not understand IT, technocentric information systems professionals who did not understand business, and faulty IT implementation. A third set of explanations, however, provided a startling (but obvious) revelation: Perhaps it was not that information systems were not user-friendly but rather that organizational processes, structures, and designs were not “work-friendly”! It was not possible to take advantage of IT to improve business performance with rigid hierarchical structures and complex procedures designed for the functionally oriented command-and-control corporate environments of the 1960s. Those antiquated organizational designs had become a drag and often a complex mess. In fact, information systems were making things worse by cementing-in complex structures through automation. We were automating the mess.

The pressure for faster cycle times, cost cutting, and better customer responsiveness intensified with accelerating global competition in the late 1980s. There was a crying need to find new ways of doing business that would yield quantum leaps in performance. *That could only be done by both radically rethinking how to do business and by taking advantage of the capabilities of IT.* The fire of business process reengineering had been ignited.

In 1990 two articles that emanated from the practices of the Index Consulting Group (now part of Computer Sciences Corporation) appeared simultaneously: one by Thomas Davenport and James Short in the *Sloan Management Review*; a second by Michael Hammer in the *Harvard Business Review*. Both brought into focus the importance of business processes and explained how IT could innovate and radically transform business processes. The Davenport and Short article brought to light the recursive relationship between IT and business process redesign. Not only could information technologies support business processes, they could also be used to transform those processes and enable new ones. Thus the real power of IT was its capability to enable us to carry out things in ways that were never before possible. Davenport and Short called it the new industrial engineering and process innovation. The Hammer article made the same argument from a much more radical perspective: “*Obliterate, don’t automate*” was

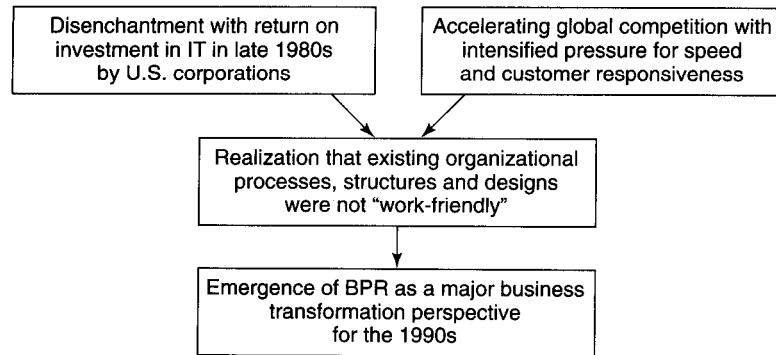


FIGURE 1-1 The historical triggers of BPR

Hammer's message. Blow up your old processes, throw away your old rules, start with a clean slate, and then use IT to radically change the way business processes are carried out. Hammer called it business process reengineering (BPR) and it started to gain popularity as a fresh business transformation perspective.

By 1993 the appeal of BPR had started to spread widely. That year, Michael Hammer and James Champy published a book on BPR titled *Reengineering the Corporation: A Manifesto for Business Revolution*. It hit a nerve with managers all over the world; in the few years that followed over 2 million copies of the book were sold in 17 different languages. The message of that well-timed book appeared to please managers and many began to perceive BPR as the possible savior and remedy for the performance ills of large corporations. The book made them feel good about themselves: It was those antiquated processes and functional structures and complex rules that were the culprits, not those hardworking flexible managers and professionals. The folksy style of the Hammer and Champy book made understanding how to use information technologies for business transformation easy to grasp by managers. Information technologies seemed easier to take advantage of than they had previously believed. The message hit home, and BPR was on a rampant path to becoming an official acronym and overused management buzzword. The hype around BPR subsided about three years later and in the late 1990s became a healthy balanced business practice.

1-1-1: What Is BPR?

The selling of BPR that emerged around the time of the Hammer and Champy book was accompanied by new armies of management consultants. At this writing, almost every major management consulting company has a BPR practice. Furthermore, many IT vendors have grown their own BPR practice divisions, as have companies in the systems integration business. They too have realized that the redesign of business processes is intimately linked to the technologies they are selling. With this blossoming of BPR consultants and accompanying hype, BPR has evolved into a practice with many variants and flavors. Common to all these variants, however, is a focus on redesigning business processes.

Business Process Reengineering (BPR) is in essence a performance improvement philosophy that aims to achieve quantum improvements by primarily rethinking and redesigning the way that business processes are carried out.

The above definition of BPR does not tell the whole story behind this performance improvement philosophy, which can be better understood by examining the implicit assumptions surrounding the B, the P and the R in BPR.

The P in BPR *A primary focus on essential processes that deliver outcomes is the signature of all variants of BPR* rather than a focus on static organizational structures. The *BPR perspective* looks primarily at flows that move, rather than at organizational structures that sit. It cuts across departmental boundaries and is thus typically cross-functional in scope within an enterprise. It can also cut across different enterprises when a business process is partly executed by one enterprise and partly by another as together they deliver an outcome.

The B in BPR The focus in BPR is on end-to-end business processes that extend all the way to a customer who receives some value from the process. The customer can be external or internal to the organization. *The BPR perspective defines the boundaries of a process in a way that makes sense in terms of business value: the coordination of ensembles of tasks performed by many people rather than narrow tasks performed by one person.* The B in BPR brings with it the primacy of effective activity coordination over individual task efficiency. This is what ultimately creates value for a customer, BPR is an outside-in perspective that defines a business process through the eyes of the customer of that process.

The R in BPR The R in BPR carries several implicit assumptions about the extent of performance improvement due to reengineering and how the reengineering is carried out.

First, *BPR searches for quantum improvements rather than incremental ones* (even though that may not always be possible.) This mindset encourages people to find innovative out-of-the-box solutions rather than just improving efficiencies through minor streamlining. To illustrate, there is usually enough “fat” in a process that a 10 percent reduction in cycle time can be achieved without any major structural change. However, a 90 percent reduction in cycle time will probably need a more creative solution. That does not mean we have to obliterate the existing process and start from a clean slate, nor does it mean we will not value incremental improvements in process performance. It does mean that we will constantly be looking for opportunities for quantum improvements in process performance.

A second assumption that comes with the R is that *any BPR effort will try to use IT to enable the process to be done in new ways that are qualitatively different.* IT is very good at changing the rules of space, time, and boundaries. Thus it is quite likely (but not necessary) that quantum performance changes will be enabled through the innovative use of IT. It is also quite likely that IT will be used for more than just automating an existing process.