

Best practices in business process redesign: an overview and qualitative evaluation of successful redesign heuristics

H.A. Reijers^{a,*}, S. Liman Mansar^b

^aDepartment of Information and Technology, Faculty of Technology and Management, Eindhoven University of Technology (PAV D14,) P.O. Box 513, Eindhoven, 5600 MB, Netherlands

^bDepartment of Computing, Communications Technology and Mathematics, London Metropolitan University, 2-16 Eden Grove, London N7 8EA, UK

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Abstract

To implement business process redesign several best practices can be distinguished. This paper gives an overview of heuristic rules that can support practitioners to develop a business process design that is a radical improvement of a current design. The emphasis is on the mechanics of the process, rather than on behavioral or change management aspects. The various best practices are derived from a wide literature survey and supplemented with experiences of the authors. To evaluate the impact of each best practice along the dimensions of cost, flexibility, time and quality, a conceptual framework is presented that synthesizes views from areas such as information systems development, enterprise modeling and workflow management. The best practices are thought to have a wide applicability across various industries and business processes. They can be used as a “check list” for process redesign under the umbrella of diverse management approaches such as Total Cycle Time compression, the Lean Enterprise and Constraints Management.

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1. Introduction

A business process redesign (BPR) initiative is commonly seen as a twofold challenge (e.g. [1–3]):

- a *technical challenge*, which is due to the difficulty of developing a process design that is a radical improvement of the current design,
- and a *socio-cultural challenge*, resulting from the severe organizational effects on the involved people, which may lead them to react against those changes.

Apart from these challenges, project management of a BPR initiative itself is also often named as a separate BPR challenge (e.g. [4]).

Many methodologies, techniques, and tools have been proposed that face one or more of the mentioned challenges in a more or less integrated approach (for an overview see [5]). Prescriptive literature in the field is sometimes advertised as “a step-by-step guide to business transformation” (e.g. [1]) suggesting a complete treatment of the organizational and technical issues involved with BPR. However, work like this seems to be primarily aimed at impressing a business audience. At best it gives some directions to manage organizational risk, but commonly lacks actual technical direction to (re)design a business process. Even the classic work of Hammer and Champy [6] devotes only 14 out of a total of over 250 pages to this issue, of which 11 pages are used for the description of a case. Gerrits [7] mentions: “In the literature on BPR, examples of successful BPR implementations are given. Unfortunately, the literature restricts itself to descriptions of the ‘situation before’ and the ‘situation after’, giving very little information on the

* Tel.: +31-40-247-2290; fax: +31-40-243-2612.

E-mail address: reijers@win.tue.nl (H.A. Reijers).

redesign process itself". According to Motwani et al. [8], in the meanwhile, research in BPR progressed slightly to also include the development of conceptual models for assessing and executing BPR. However, the main criticism to these models/steps is that there has been little effort to use the existing theory to develop a comprehensive integrated model on BPR. Valiris and Glykas [9] also recognize as limitations of existing BPR methodologies that "there is a lack of a systematic approach that can lead a process redesigner through a series of steps for the achievement of process redesign". As Sharp and McDermott [10] commented more recently: "How to get from the as-is to the to-be [in a BPR project] isn't explained, so we conclude that during the break, the famous ATAMO procedure is invoked—And Then, A Miracle occurs".

In our research we are interested in developing a methodology for BPR implementation based not only in detailing steps for BPR but also on guiding and supporting the BPR execution by means of techniques and best practices.

In this context our first concern is to adopt (or define) an existing framework for BPR. We will not try to present yet another integrated BPR methodology, the framework should only allow the user of the BPR methodology to recognize the important topics and their relationships. The second concern is to identify among the literature and the successful execution of current BPR implementations the best practices that may/should be used for each topic of the framework. Brand and Van der Kolk's [11] evaluation framework will be used to assess the (supposed) effects of a best practice on cost, quality, time and flexibility. Our final concern is to guide the users to when and in which order to apply these best practices. This latter point also includes guidance towards the limits of these best practices and their validity domain. This involves an extensive study of all the best practices identified.

In this paper, we will only focus on the first and second concern of our research, namely:

- defining a framework for BPR implementation and
- identifying the best practices in BPR implementation.

The best practices which are identified should be seen as independent rules of thumb, each of which can be of value to support practitioners in facing the technical challenge of a BPR project. Merely applying these rules, however, is unlikely to lead to sustained success.

In the first place, the BPR practices we will discuss focus on the mechanics of the process and do not cover how the behavior of people working within the process can be influenced. Anybody who conducted a BPR project realizes that the latter is a crucial factor in making a process transformation successful.

Secondly, the application of these various best practices must be embedded within an overall vision on BPR that is adopted for the project. Several well-known management philosophies exist that can guide the overall course of a

reengineering project, such as Total Cycle Time Compression [12,13], the Lean Enterprise approach [14] and Constraints Management [15,16]. Although a discussion of these various approaches is outside the scope of this paper, it is important to point out here that the best practices we discuss should be seen as being on a lower, more operational level than these encompassing approaches. Many of the best practices we mention do have a wide application across these approaches. For example, consider the case of the reengineering of a manufacturing company as in [17]. This BPR project was driven by a Total Cycle Time Compression approach in which several best practices we list in this paper were applied, such as empowerment and the introduction of process-wide technology. Another example is the task elimination best practice, which originated from the same experiences within the Toyota company that shaped "lean thinking" as an overall management philosophy [18].

In summary, we believe that adopting an overall management vision on BPR is a necessary condition for making the application of BPR best practices effective and to give direction to a BPR effort. And in return, the implementation of such a BPR vision can be helped by considering the best practices we present in the rest of this paper.

The structure of the paper is now as follows. First we will present a framework for BPR implementation in Section 2. It will serve as a guidance to which topics should be considered when implementing BPR. Before we discuss the various best practices, we will describe a model in Section 3 that serves as a frame of reference for their assessment. Next we will describe the BPR best practices in Section 4. For each best practice, we will present its general formulation, its potential effects and possible drawbacks. We will also indicate similarities in best practices, provide references to their origin and—if available—to known quantitative or analytic support. A summary of all contributions to the best practices will be analyzed in Table 1. The paper ends with our conclusions and future research.

2. A business process redesign framework

In order to help the user in choosing the correct best practice when dealing with the implementation of BPR, it is important to define clearly a framework for it. The idea behind a framework is to help practitioners by identifying the topics that should be considered and how these topics are related [19]. In this perspective, the framework should identify clearly all views one should consider whenever applying a BPR implementation project. So, a framework is not a model of a business process. It is rather an explicit set of ideas that helps in thinking about the business process in the context of reengineering.

We will now explore and discuss several frameworks and business process analysis models that are available in the literature.

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