BEST PRACTICES IN BUSINESS PROCESS REDESIGN: SURVEY RESULTS AMONGST DUTCH AND UK CONSULTANTS

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ABSTRACT

This paper describes and discusses the results of a survey we have undertaken in 2003/2004 amongst Dutch and UK consultants in the field of Business Process Redesign (BPR). It describes a set of best practices in BPR we wanted to test. In the paper we explain how the survey was conducted and describe the participants' profiles. We also highlight the major survey's findings.

Keywords: Business Process Redesign, Survey, Best practices.

1. INTRODUCTION

This paper describes and discusses the results of a survey we have undertaken in 2003/2004 amongst Dutch and UK consultants in the field of Business Process Redesign (BPR). Many surveys exist in the literature about business process reengineering (Zairi and Sinclair, 1995; Guimaraes and Bond, 1996; Valimaki and Tissari, 1997; O'Neill and Sohal, 1998; Crowe and al., 2002; Maull et al, 2003). However, we could not find specific ones related to business process redesign, i.e. surveys related to how the process should be articulated in terms of tasks and resources. For example, in these surveys, the focus is rather set on how to manage the changes in an organisation. One of the purposes of our survey is to validate a framework that helps the process designer in choosing the correct best practice when dealing with the implementation of BPR. This framework lists and classifies twenty-nine best practices in BPR. Another purpose of this survey is to assess how far are the gathered best practices used in redesigning real processes within organisations. We have restricted the study to a "top ten" list of best practices, as the survey would have been too long for the participants. The survey also aimed at assessing the qualitative impact of the best practices on the redesigned processes. In this paper we will focus on the second purpose of this survey, i.e. the best practices' impact and level of usage. As a consequence, we will test in this paper, the following hypothesis:

H1: All the rules that have been identified as "best practices" (refer to Table) are indeed applied extensively by practitioners.

H2: Practitioners agree on the impact of a given rule on the quality, the cost, the time and the flexibility of a business process.

The organisation of this paper is as follows. The first section describes the set of best practices we want to test. The second section explains how the survey was conducted and describes the participants' profiles. The third section provides the survey's findings. Finally, the conclusion discusses the survey findings and further research implications.

2. BPR BEST PRACTICES TO BE TESTED

Implementing a BPR project involves one or more of the following aspects: the structure of the process, the participants in the process, the information that is being processed, the technology to be used and the interaction with the environment of the process. In (Reijers and Limam Mansar, 2004) we explain how we have derived an extended framework for implementing BPR best practices based on the above aspects. Within our framework for BPR implementation, we have gathered and classified twenty-nine best practices in BPR.

Over the last twenty years, best practices have been collected and applied in various areas, such as business planning, healthcare, manufacturing, and the software development process (e.g. Martin, 1978; Butler, 1996; Golovin, 1997). They are intended to support the redesigner of a business process in facing the technical BPR challenge: the implementation of an improved process design. A qualitative evaluation can be undertaken to assess the best practices against their impact on time, flexibility, quality and cost issues. We use the "Devil's quadrangle" of Brand and Van der Kolk (1995) for the purpose. It illustrates that it is sometimes impossible to reduce a process's duration (time) without increasing the process's final cost or to improve a process's quality without loosing some flexibility.

Many questions remain unanswered about the best practices: how far are these rules actually used in redesigning real processes within organisations? Can we derive a "top ten" list of best practices? What is their qualitative impact? To answer these questions, we have, amongst others, analysed practitioners' replies to a survey we have conducted on this subject. The study is restricted to a "top ten" list of most popular best practices (refer to Table).

3. SURVEY DESIGN AND PARTICIPANTS' PROFILE

The survey took place in 2003/2004 and targeted well-established practitioners in the BPR field. To select potential participants to our survey, we decided to focus on Dutch and UK practitioners as we were based in both countries and wanted to exploit our local contacts with BPR practitioners. The survey excluded academics (or to be more precise, academics who could not show evidence of experience in BPR projects within/with real organisations). Practitioners were selected according to the company they represented (e.g. well-established consulting groups) and also according to their track record in BPR. The survey was conducted using an online questionnaire that was sent to participants using emails. The survey consisted of four major parts. The first part included general questions to determine our respondents' profile and to assess their expertise in BPR. The results are indicated in Table IV.

Table I. Most popular best practices in business process redesign.

	Best practice	Definition
1.	Task elimination	Eliminate unnecessary tasks from a business process.
2.	Task composition	Combine small tasks into composite tasks and divide large tasks into workable smaller tasks
3.	Integral Technology	Try to elevate physical constraints in a business process by applying new technology
4.	Empower	Give workers most of the decision-making authority and reduce middle management
5.	Order assignment	Let workers perform as many steps as possible for single orders
6.	Resequencing	Move tasks to more appropriate places
7.	Specialist-generalist	Consider to make resources more specialized or more generalist
8.	Integration	Consider the integration with a business process of the customer or a supplier
9.	Parallelism	Consider whether tasks may be executed in parallel
10.	Numerical involvement	Minimize the number of departments, groups and persons involved in a business process

The second part included questions designed to validate our framework. We have asked the participants to rate and discuss how much and how often they focus on each framework's element when undertaking a BPR project. The third part of the survey listed the ten most popular best practices we have initially selected. Participants were asked to express whether they had used any of them and, if so, how often. The results are indicated in **Table** VI. Participants were also asked to rank the impact of each best practice on the quality, the flexibility, the time and the cost performances of a given best practice. In the last part participants were asked to indicate whether they have used the best practices in their most successful (and less successful) project. They were also asked to indicate the best practices that contributed the most to a BPR project's success. In this paper, we only relate the results of the first and third parts. recognised a best practice as valuable and how often they have used it in their projects:
Obviously, the figures in **Table V** support our initial classification of best practices as largely popular amongst practitioners. For each best practice, the majority of participants mentioned to have used them at least 2 to 5 times in earlier BPR projects.

Interestingly, though most participants agreed that they would mostly focus on the 'Customer', the 'Product' and the 'Information' elements of our framework when redesigning a business process, the widely applied

rules are chosen and classified according to the 'Operation', the 'Technology' and the 'Behavioural' elements of our framework. We might conclude that in order to obtain a business process which aims are customers' oriented (good service, good product, good information flow), consultants need to focus primarily on the operational and behavioural views of a business process as well as on the structure of the processes.

Table IV summarises our participants' profile. It shows that for both samples (Dutch and UK) the vast majority of practitioners had more than 15 years of experience and ranked their own expertise in the field close to 7 on a scale of 1 to 10.

We have asked the participants to indicate which type of application area they were mostly targeting in their BPR projects. **Figure** 1 displays the average results. A ranking of 4 indicates a high popularity (the participant would have been almost always involved in projects in a given application area), a ranking of 1 a low popularity (the participant would have been almost never involved in projects in a given application area). Interestingly, hardly any practitioner indicated to be "almost always" involved in one particular type of organisation. This diversity in the projects they were undertaking implies that the results that might be derived from this survey are not specific to one type of industry or business activity, but can be generalised to any BPR implementation project.

We have also asked the participants to describe the roles they took in most BPR projects they were involved in (Refer to **Figure**2).

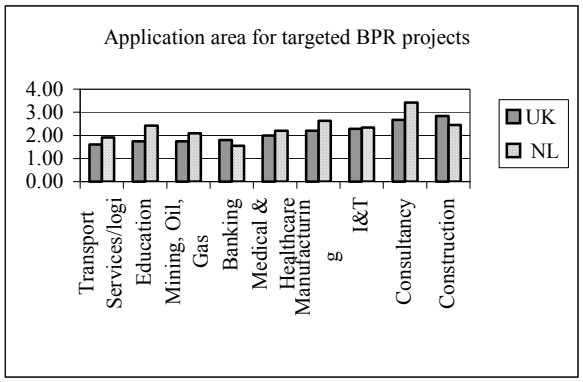

Figure 1. Participants' application areas for targeted BPR projects.

The results imply that most practitioners were either business consultants or project managers allowing for an even better validation of the survey results as the participants' experience in BPR projects allowed them to see the "big picture" and not only the partial details of, say the IT part of the project. A closer analysis shows that most respondents indicated having fulfilled 3 roles or more. This might be related to their relatively long experience in the BPR field and thus different roles they might have undertaken during their careers.

4. SURVEY FINDINGS

As far as the best practices are concerned, we wanted to validate through this survey the validity of our classification of top ten best practices (refer to Table). For this sake, participants were asked whether they have used a specific best practice in their BPR projects and, if so, how often (refer to results in **Table** VI). In **Table** VI, we indicate percentages of participants who recognised a best practice as valuable and how often they have used it in their projects:

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Interestingly, though most participants agreed that they would mostly focus on the 'Customer', the 'Product' and the 'Information' elements of our framework when redesigning a business process, the widely applied rules are chosen and classified according to the 'Operation', the 'Technology' and the 'Behavioural' elements of our framework. We might conclude that in order to obtain a business process which aims are customers' oriented (good service, good product, good information flow), consultants need to focus primarily on the operational and behavioural views of a business process as well as on the structure of the processes.

Table IV. Participants' profile.

Practitioners	Dutch Sample			UK Sample		
Number of participants	31			60		
Response rate	42%			20%		
% of BPR practitioners	92%			92%		
Years of experience	Range	Average	Mode	Range	Average	Mode
	7-35	14.8	15	10-35	20	10
Self-expertise assessment	Range	Average	Mode	Range	Average	Mode
	5-10	7.8	8	4-10	6.75	6

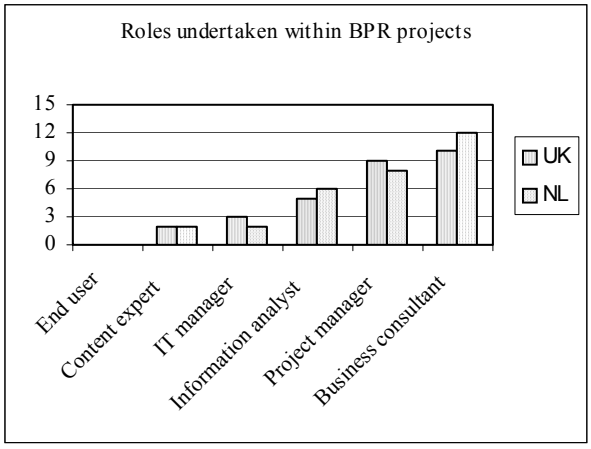

Figure2. Participants' undertaken roles within BPR projects.

Finally, it is noticeable that the bottom of the list includes the 'Order assignment', the 'Numerical involvement' and the 'Empower' rules (All related to the organisation element of our framework). Some clues to support this low ranking might be found in some participants' comments about the relevant best practices. For example, on the 'Order assignment' best practice ('Let workers perform as many steps as possible for single orders') a participant (UK8) noted that he never uses the rule because the 'segregation of duties may limit the stages that one operative can perform as may the limit of an individual employees training. Simply having one operative do more of the process is not necessarily an improvement'. On the 'Numerical involvement' ('Minimize the number of departments, groups and persons involved in a business process') another participant (UK9) claims that 'Au contraire, we recognised that core processes cuts across department and invite the group to work together'. Finally, on the 'Empower' best practice ('Give workers most of the decision-making authority and reduce middle management') the same participant justified the non-usage of the rule by claiming that 'This involves redefining the organisation structure and governance authorities'.

Compared to Table , one significant difference is the 'Parallelism' best practice's position. The participants' assessment of this best practice is much more in-line with the potential benefits it might bring (drastic cut of process time).

The second aspect we wanted to validate using this survey is whether practitioners recognised and agreed about the impact of a best practice on the quality, the time, the cost or the flexibility of the business process. We meant by quality performance the way the new process is generally perceived by its users

(internal/external customers). We meant by cost performance a reduction in the operational costs of the redesigned process (not the costs to implement it!). We meant by time performance a reduction in the throughput time (or similar time measures) of the new process. And we meant by flexibility the extent to which the new process offers more alternatives (in terms of resources and solutions) in delivering the product. Participants were asked to rank the impact of a best practice on a business process between 0 and 10. If less than five, this ranking meant a negative impact. If more than five this ranking meant a positive impact. We have gathered and estimated the average rankings and translated them into a qualitative interpretation. Figure, for example, displays the impact of the task elimination best practice. The grey diamond delimitates a neutral area. Within the area, a negative impact is expressed. Outside the area is the positive impact. We now provide some analysis of this ranking.

Table V. Classification and level of usage of best practices amongst participating practitioners.

Ranking	Best practice	% Usage	Frequency	Framework element
1.	Task elimination	94%	All participants used it 6 times or more.	Operation view
2.	Integral Business Technology	94%	16/17 participants used it between 2 to 5 times).	Technology
3.	Task composition	89%	15/17 participants used it between 2 to5 times.	Operation view
4.	Parallelism	88%	15/17 participants used it between 2 to 5 times.	Behavioural view
5.	Specialist-generalist	88%	15/17 participants used it between 2 to 5 times.	Organization: Population
6.	Resequencing	88%	15/17 participants used it between 2 to 5 times.	Behavioural view
7.	Integration	76%	13/17 participants used it between 2 to 5 times.	Customers
8.	Empower	76%	13/17 participants used it between 2 to 5 times.	Organization: Population
9.	Numerical involvement	76%	13/17 participants used it between 2 to 5 times.	Organization: Structure
10.	Order assignment	53%	9/17 of those who used it did so between 2 to 5 times. The remaining used it only once.	Organization: Structure

Of interest, for the task composition best practice (refer to Figure 3) participants have recorded only a slight positive impact on all dimensions. The reason behind this cautious opinion is explained by one of the participants. He explains that often, redesigning focuses more on changing the technology without being allowed to change organisational roles and responsibilities. This is inevitable would the task composition be applied. The situation is similar for the resequencing best practice (Refer to Figure): only a slight positive impact is recorded. Indeed, this best practice might also imply organisational changes as moving tasks' positions might imply assigning the tasks to different workers, thus changing their responsibilities.

Not surprisingly, according to our Dutch and UK participants, the best practice that is reported to have the highest impact on the quality dimension is the Integral business technology best practice. In Figure we compare our and participants' evaluation of this best practice. It shows that our views diverge about the cost and quality. This might be explained by the fact that participants assessed the rule's impact on the long term when all obstacles are overcome and the IT investment starts to pay off.

Also, the participants indicated that the best practice that had the highest impact on the process' cost is the task elimination. Indeed, the aims of this best practice are to increase the speed of processing and to reduce the cost of handling an order.

The highest impact on the process' time is the Integration best practice (Refer to Figure 1). In general, integrated business processes should render a more efficient execution, both from a time and cost perspective. The drawback of integration is that mutual dependence grows and therefore, flexibility may decrease.

Finally the highest impact on the process' flexibility is the Empower best practice. Empowered employees gain confidence and become more motivated to perform their tasks. As a participant have noted 'increased motivation of staff gives more flexibility to mix the work types and makes the process less dependent on particular staff for particular types of work'.

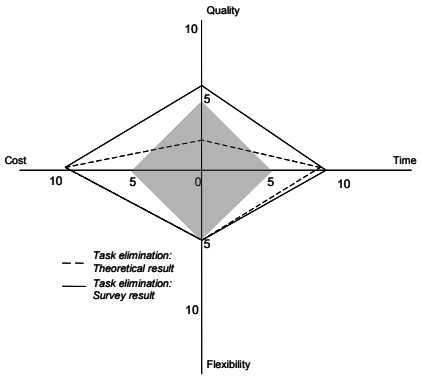

Figure 4. The task elimination best practice's impact.

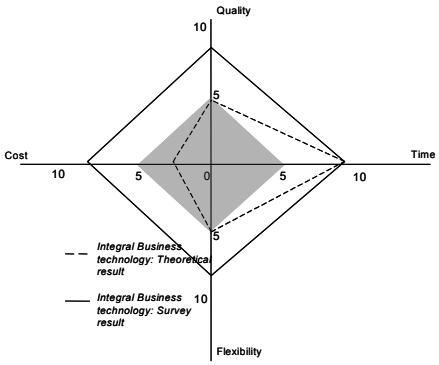

Figure 5. **The integral business technology best practice's impact.**

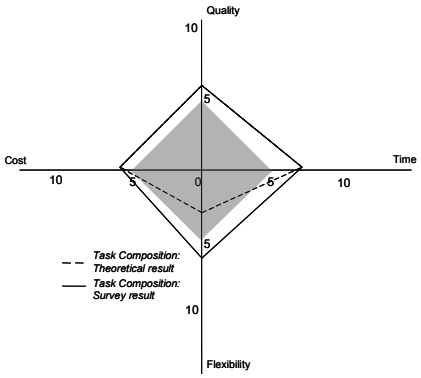

Figure 6. **The task composition best practice's impact.**

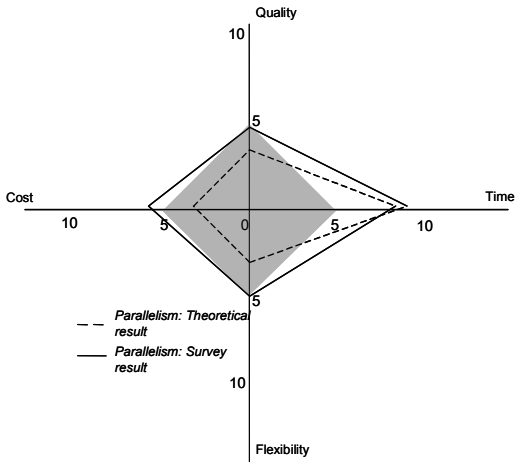

Figure 7. **Parallelism best practice's impact.**

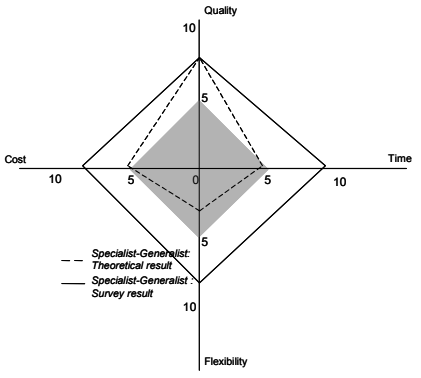

Figure 8. **The specialist-generalist best practice's**

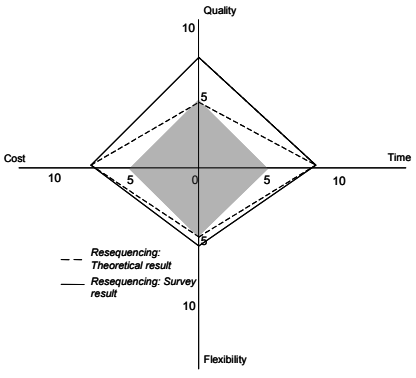

Figure 9. **The resequencing best practice's**

impact.

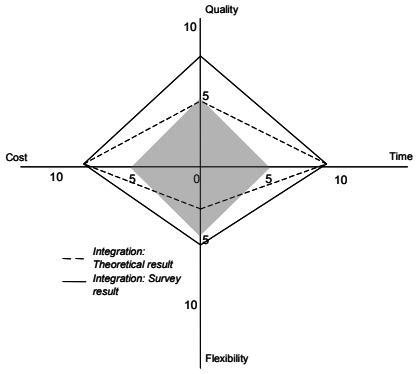

Figure 10. **The integration's best practice impact.**

impact.

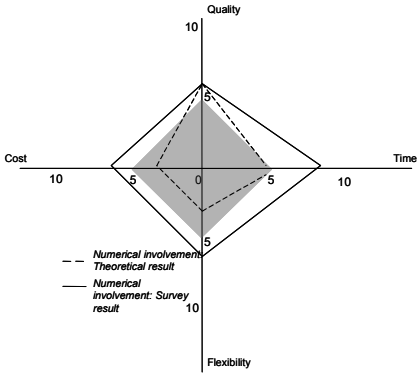

Figure 11. **The numerical involvement best practice's impact.**

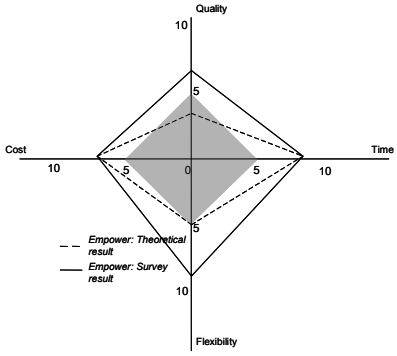

Figure 12. The Empower practice's impact.

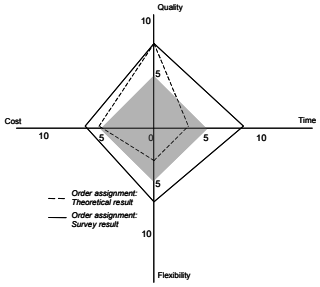

Figure 13. **The order assignment best practice's impact.**

CONCLUSION: BPR FRAMEWORK AND BEST PRACTICES VALIDATION

In this paper we have discussed the results of a survey amongst practitioners in BPR. The results provide a list of "top ten" best practices in BPR used and validated by experienced practitioners (refer to Table V and hypothesis H1). In our survey, we have also analysed and discussed the impact of the top ten best practices on four dimensions: the flexibility, the cost, the time and the quality (refer to hypothesis H2).

The four dimensions were graphically displayed using the devil's quadrangle (refer to Figure for example). We believe that applying a best practice may have opposite impacts on the redesigned process. For example, the parallelism rule reduces the total duration of the process, but its implementation can be very costly if it implies using new technologies to support simultaneous execution of tasks. However, a closer look to our estimation and the feedback provided by the survey's participants indicates that the latter felt more positive about the four dimensions' impacts (refer to Figures 3-12). This discrepancy can be related to the fact that participants were asked to rank the best practices' impacts and not to classify them. On the other hand, the differences are probably due to the fact that the participants were referring to different examples of BPR projects in their analysis. Each best practice was assessed in a particular context where it added value. This indicates a future research direction: to investigate for all best practices when, where and how to apply or not apply them as well as to develop a methodology in applying best practices. The methodology should provide a guideline to the order/conditions in which the best practices should be implemented.

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