Issues in Implementing Business Process Reengineering (BPR) Projects

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Abstract

Business Process Reengineering (BPR) is a technique for critical analysis and radical redesign of prevailing business processes to obtain improvements in performance measures. Though BPR projects seem promising and offer many benefits to organisations, researchers have found that typically around seventy percent of reengineering projects fail in action due to various issues. Thus, the purpose of this paper is to identify the issues which may have significant impacts on the successful implementation of BPR projects. Four case studies were conducted to identify the issues faced during actual BPR project implementation. Thirty (30) unique issues faced by the organisations in different phases of the reengineering process (i.e. Pre-BPR implementation phase, BPR implementation phase and Post-BPR implementation phase) were identified. It is hoped that the findings of this study could facilitate the practitioners in identifying the issues in implementing BPR projects that should be given enough consideration to assure the success of BPR projects.

Keywords
Business Process Reengineering (BPR); Case Studies; Implementation; Issues.

1. Introduction

Business Process Reengineering (BPR) is a management technique for transforming organisations in a radical manner in order to bring about significant enhancements (Hammer 1990; Hammer and Champy 1993). Simply, BPR is defined as the fundamental and radical approaches undertaken to enhance the underlying process efficiency through altering or rejecting non-value adding activities and redeveloping the process (McNulty and Ferlie 2000). Since BPR contributes to reduce the cost of activities via the analysis and redesign of the workflow and processes of the organisation, in the current competitive market, it is considered as an effective managerial tool to cope with technological and marketing changes (Omidi and Khoshttinat 2016).

In many instances, the complicated changes brought by BPR projects in all aspects of people, processes, and technologies, have resulted in many issues throughout the BPR implementation process (Al-Mashari and Zairi 2000a), which has ultimately led to project failures (Champy 1995; Tennant and Wu 2005). Consequently, there is a vital need to pay sufficient attention towards issues in implementation to ensure the success of BPR projects (Champy 1995). Hence, the aim of this paper is to explore the issues which may have significant impacts on the success of BPR projects.

2. Issues in Implementing BPR Projects

The high failure rate of BPR projects has highlighted the importance of identifying and addressing issues in BPR implementation (Champy 1995; Darmani and Hanafizadeh 2013; Padhi et al. 2014). A number of researchers have identified some key issues associated with BPR implementation (Al-Mashari and Zairi 2000b; Grover et al. 1995; Martin and Cheung 2000; Zhao 2004). Among which only Grover et al. (1995) has put forward a list of sixty-four (64) BPR implementation issues classified under six categories by compiling the findings of various researches. Table 1 portrays the potential issues in BPR implementation as put forward by Grover et al. (1995).

Table 1. Issues in BPR implementation

Category	Description	Potential issues
Management support problem	Potential problems associated with the management's active understanding and support for reengineering	Lack of top management support in business reengineering efforts Managers' failure to support the new values and beliefs demanded by the redesigned processes Lack of senior management leadership for reengineering efforts Lack of BPR project champion Top management's insufficient understanding about BPR Insufficient understanding about the goals of top management in relation to BPR
Technological competency problems	Problems relating to the technical infrastructure and expertise within the organisation	Lack of expertise in IT in the organisation Limited telecommunication infrastructure Limited database infrastructure Limited IS application infrastructure Insufficient understanding about existing data, applications, and IT across the organisation Failure to continually assess emerging IT capabilities Lack of IS participation and assistance in the BPR project Failure to aggressively use IT enablers
Process delineation problems	Potential problems related to the identification of suitable parameters for the process involved	Scope of reengineered process was defined inappropriately Failure to identify process owners who are responsible for entire business process Difficulty in establishing performance improvements goals for the redesigned process Failure to include process owners throughout the BPR effort Difficult to forecast HR, financial and other resource requirements Focusing only on evaluation criteria that are easily measured and quantifiable Approach to reengineering was too radical Proposed changes to the process were too incremental, not radical enough
Project planning problems	Potential problems associated with planning, setting up the team and other preparation for BPR projects	Lack of strategic vision Lack of appropriate planning Lack of alignment between corporate planning and IT planning Top management's short-term view and quick fix mentality Identification of candidate process for reengineering not based on strategic planning Failure to understand the customers' viewpoints in BPR efforts Absence of appropriate training for BPR team members Failure to commit the required resources to BPR efforts Difficulty in finding BPR team members who have required skills and knowledge Lack of authority given to BPR team Lack of experience in business reengineering Lack of external consultant support for BPR efforts Difficulty in financially justifying benefits of BPR
Change management problems	Potential problems due to the failure to manage change from the old process to the new process	Failure to anticipate and plan for the organisational resistance to change Failure to consider politics of BPR efforts Senior management's failure to commit to new values Absence of management systems (e.g. incentive, training system) to cultivate required values Failure to consider existing organisational culture Difficulty in gaining cross functional cooperation Need for managing change is not recognized Necessary changes in human resource policies for BPR implementation were not made Rigid hierarchical structures Line managers in the organisation unreceptive to innovation Unreasonable expectations attributed to BPR as a solution for all organisational problems Failure to communicate reasons for change to members of the organisation

		Lack of appropriate employee compensation incentives in the new process Inadequate training for personnel affected by the redesigned process Not enough time to develop new skills for the redesigned process Failure to build support from line managers
Project management problems	Problems which deal with the actual conduct of the project	Failure to assess project performance in the early stages of BPR efforts to provide feedback Reengineering team member's conflict between team responsibilities and functional responsibilities Too much emphasis on analysing the existing process Poor communication among BPR team members Difficulty in measuring reengineering project performance Ambiguity in job expectations for BPR team members Lack of appropriate BPR methodology Difficulty in gaining control of reengineering efforts Failure to effectively monitor progress of project according to the schedule The BPR effort takes too much time Uncertainty about the BPR project's time-frame Poor communication between BPR team members and other organisational members Difficulty in modeling and simulating proposed change to the business process

Source: (Adapted from Grover et al. 1995)

Besides the work of Grover et al. (1995), which has been carried out over 20 years ago, there is a lack of recent research investigating the contemporary issues in BPR implementation. Furthermore, several researches have asserted that the problems faced by the Asian companies in implementing BPR significantly differs from those faced by companies in the developed world due to their different settings (Ngai et al. 2008). However, so far, most of the research in BPR have been conducted from the Western executives' perspective (Kamhawi 2008), whereas, only a few authors like Van der Vyver and Rajapakse (2012) have looked into the developing countries' context. Hence, a clear need exists to identify the contemporary issues faced by the organisations in the developing countries in BPR implementation.

In addition, despite the identification of numerous issues of BPR implementation, still there is a general lack of focus on identifying the issues faced by the organisations during various different phases of the BPR implementation process. BPR implementation is a consecutive process encompassing key activities that are needed to redesign the business processes (Sikdar and Payyazhi 2014). Review of literature revealed five key steps of the BPR implementation process: such as preparing for reengineering; mapping and analysing the AS IS process (i.e. current process); design the TO BE process (i.e. new process); implement the reengineered process; and improving continuously (Hammer and Champy 1993; Muthu et al. 2010). These identified steps could be organised into the three BPR implementation phases (i.e. Pre-BPR implementation phase, BPR implementation phase, and Post-BPR implementation phase) identified by Radhakrishnan and Balasubramanian (2008) based on the boundaries of the BPR phases defined by Emerie-Kassahun and Molla (2013). Hence, the issues in implementing BPR projects for each of these identified BPR phases will be elicited in this study through empirical investigation.

3. Research methodology

This research adopted a qualitative approach using a case study strategy. Case studies were conducted in four (04) Sri Lankan organisations that have undertaken and fully implemented BPR projects within the last four (04) years. Due to difficulties in collecting data, selection of cases was limited to organisations in Western province of Sri Lanka. Organisations typically reengineer their business processes either using an in-house BPR team or with the assistance of external BPR consultants. Thus, in order to replicate the true nature of BPR implementation in the Sri Lankan context, the selected cases included both projects reengineered by in-house teams as well as those using BPR consultants. In total fourteen (14) semi-structured interviews were conducted among the key stakeholders of the selected reengineering projects. Details of the selected cases and respondents are given in Table 2.

Table 2. Details of the cases and respondents

Case	Reengineered by	Reengineered process	Respondent code	Profile of the respondent	Years of experience
A	In-house BPR team	Core process	A1	Manager - Projects and automation	13
			A2	Technician - Electrical	05
			A3	Technician - Mechanical	14
B	In-house BPR team	Core process	B1	Divisional head - Maintenance	16
			B2	Executive - Operational system	05
			B3	Manager - Operations	20
			B4	Production executive	13
C	In-house BPR team	Core and non-core process	C1	Deputy general manager - BPR	14
			C2	Engineer - BPR	08
			C3	Engineer - BPR	13
			C4	Engineer and Product manager	11
D	BPR consultant	Core and non-core process	D1	Managing director and Senior consultant	36
			D2	Assistant consultant	04
			D3	Financial controller	15

Qualitative content analysis with the assistance of QSR.Nvivo (2011) was used for analysing and interpreting the collected data.

4. Case study analysis

Case study analysis disclosed thirty (30) issues faced by BPR project participants within the different phases of the reengineering process (i.e. Pre-BPR implementation phase, BPR implementation phase, and Post-BPR implementation phase). Pre-BPR implementation phase is the initial phase of a BPR project wherein all the activities from discovering of reengineering opportunities through to the redesign of the selected process are performed. BPR implementation phase merely dictates the physical implementation of the redesigned process and involves activities like make the implemented process operational and manage the change. Post-BPR implementation phase is the final phase of a BPR project where the performance of reengineered process was evaluated and the measures to be taken to ensure the continues functioning of redesigned process is determined.

Table 3 shows the identified BPR issues for each of these identified BPR implementation phases, which are classified into the groups of BPR implementation issues identified through the literature (Refer Table 1). To present the issues in implementation of BPR projects, the format presented in Figure 1 was adopted.

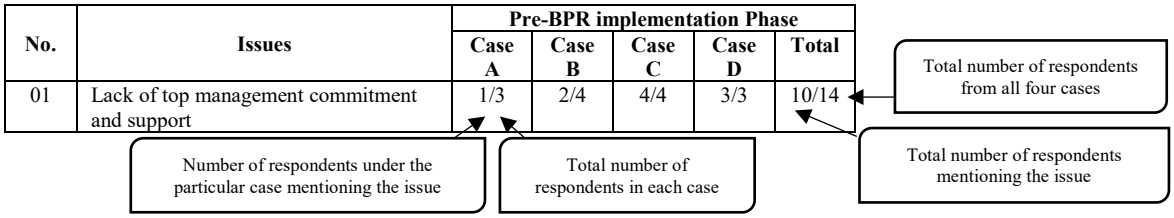

Figure 1. Presentation of results

Table 3. Issues faced by the selected cases throughout the BPR project

No.	Issues	Number of respondents														
		Pre-BPR implementation Phase					BPR Implementation Phase					Post-BPR implementation Phase				
		Case A	Case B	Case C	Case D	Total	Case A	Case B	Case C	Case D	Total	Case A	Case B	Case C	Case D	Total
Management support problems																
01	Lack of top management commitment and support			4/4	3/3	**7/14**		1/4		1/3	**2/14**	1/3	3/4			**4/14**
02	Lack of senior management leadership for reengineering effort		1/4			**1/14**					**0/14**					**0/14**
Process delineation problems																
03	Difficult to forecast HR, financial and other resource requirements	2/3			1/3	**3/14**					**0/14**					**0/14**
04	Failure to include process owners throughout the reengineering effort			1/4		**1/14**					**0/14**					**0/14**
Project planning problems																
05	Lack of experience in BPR		3/4			**3/14**					**0/14**					**0/14**
06	Failure to commit required resources for BPR effort			3/4		**3/14**				3/3	**3/14**					**0/14**
07	Difficulty in finding BPR team members who have required skills and knowledge				2/3	**2/14**					**0/14**					**0/14**
08	Difficulty in financially justifying benefits of BPR	2/3				**2/14**					**0/14**					**0/14**
09	Top management's short-term view and quick fix mentality				2/3	**2/14**					**0/14**					**0/14**
10	Inadequacy of knowledge in certain areas			1/4		**1/14**					**0/14**					**0/14**
11	Lack of appropriate planning					**0/14**	1/3				**1/14**			4/4		**4/14**
Change management problems																
12	Resistance to change					**0/14**	3/3	4/4	2/4	3/3	**12/14**					**0/14**
13	Inadequate training for personnel affected by the redesigned process					**0/14**		2/4	4/4		**6/14**					**0/14**
14	Lack of time to develop new skills for the re-designed process					**0/14**		4/4			**4/14**			2/4		**2/14**
15	Failure to build support from line managers due to their unreceptive to innovation					**0/14**				2/3	**2/14**					**0/14**
16	Lack of employee involvement					**0/14**					**0/14**		2/4			**2/14**
17	Lack of appropriate employee compensation incentive in the new process					**0/14**					**0/14**		1/3			**1/14**
Project management problems																
18	Ambiguity in job expectations for BPR project stakeholders	2/3	2/4			**4/14**					**0/14**					**0/14**
19	Lack of appropriate BPR methodology		4/4			**4/14**					**0/14**					**0/14**
20	Uncertainty about BPR project's time frame	1/3	2/4			**3/14**			4/4	3/3	**7/14**					**0/14**

21	Project participants' conflict between team responsibilities and functional responsibilities		3/4	**3/14**	1/3	4/4	4/4	1/3	**10/14**				**0/14**
22	Difficulties in obtaining the process validation		2/4	**2/14**					**0/14**				**0/14**
23	Poor communication among reengineering team members	1/4		**1/14**					**0/14**				**0/14**
24	Poor communication between BPR team members and other organisational members			**0/14**	2/3	2/4			**4/14**			3/3	**3/14**
25	Failure to assess project performance in the early stages of BPR efforts to provide feedback			**0/14**	1/3				**1/14**				**0/14**
26	Failure to effectively monitor the progress of the project according to the schedule			**0/14**	1/3				**1/14**	1/3			**1/14**
27	Legal issues			**0/14**			1/4		**1/14**				**0/14**
28	Difficulty in gaining control of reengineering efforts			**0/14**				1/3	**1/14**				**0/14**
29	Difficulty in measuring the reengineering project performance			**0/14**					**0/14**	3/3	4/4	4/4	**11/14**
30	Difficulties in obtaining feedbacks from the end users			**0/14**					**0/14**			2/4	**2/14**

These findings are further explained in the following section.

1.1 Issues in implementing BPR projects

As depicted in Table 3, out of the derived thirty (30) issues, sixteen (16) reengineering issues were faced by the organisations in the Pre-BPR implementation phase while fourteen (14) issues were faced by the organisations in the BPR implementation phase. Compared to these two phases, only nine (9) issues were faced by them in the Post-BPR implementation phase. These derived issues represent five (5) (i.e. management support problems, process delineation problems, project planning problems, change management problems, and project management problems) out of total six (6) groups of BPR implementation issues identified in Table 1.

Issues faced in Pre-BPR implementation phase: None of the issues identified in this phase were common to all four cases. 'Lack of top management commitment and support' was the key issue faced by both Case C and D throughout this phase. This has led Case C to face certain difficulties in getting the necessary approvals from top management during this phase. Respondent D2 from Case D, who was attached to the BPR consultant, divulged that the lack of knowledge on reengineering of in-house staff including senior managers was the main reason which led them to face commitment issues. In Cases A and B both, there had been failure to clearly define the roles to be played by each of the project stakeholders in the preparation stage of the project. This has resulted in many role ambiguities throughout this phase. Besides, uncertainty about project time frame was another issue faced by these two cases (i.e. Cases A and B) due to the delays in obtaining required raw materials and equipment.

Case A also had faced 'difficulty in financially justifying the benefits of BPR' during this phase. This has resulted in a need for properly calculating the project payback to convince the top management in getting the approval for the project. The analysis also revealed four unique issues faced by Case B under this phase (Refer Table 3), in which 'lack of appropriate BPR methodology' was the key issue emphasised by all four respondents. This was because, in this particular case, the failure to adopt a proper methodology had restricted the level of success of their BPR project. Similarly, Case C had faced five unique issues, wherein 'failure to commit required resources for BPR effort' and 'project participants' conflict between team responsibilities and functional responsibilities' were highlighted by the respondents as key issues which led to project delays and had ultimately significantly impacted the successful execution of the project. 'Difficulty in finding BPR team members with required skills and knowledge' and 'top management's short-term view and quick fix mentality' were the issues faced only by Case D. It was due to this former issue that the organisation has decided to obtain the assistance of BPR consultants in reengineering their business processes.

Issues faced in BPR implementation phase: Findings revealed that 'resistance to change' and 'project participants' conflict between team responsibilities and functional responsibilities' were the issues faced by all the four cases under this phase. Thus it appears that these are common issues faced by organisations during this phase despite the type of process reengineered (i.e. core or non-core process) and the party who executed the project (in-house team or BPR consultant). Since, both Cases C and D were focused on reengineering both core and non-core processes, during the implementation phase both of these cases have faced some 'uncertainties about the BPR project's time frame'. Conversely, 'poor communication between BPR team members and other organisational members' was a key issue faced throughout the implementation phase by the cases that were involved in reengineering the core processes (i.e. Cases A and B). On the other hand, due to client organisation's lack of understanding of BPR and its associated benefits, Case D, which was led by a BPR consultant, had faced three unique issues: i.e. 'failure to commit required resources for BPR effort', 'failure to build support from line managers due to their unreceptive to innovation', and 'difficulty in gaining control of reengineering efforts'. As per Respondent D1, in this case all these issues have resulted in causing delays in project implementation.

Though Case A possessed past experience with reengineering projects, they had faced some issues like 'failure to assess the project performance in the early stages of BPR efforts (i.e. after making the new process operational) to provide feedback', 'lack of appropriate planning', and 'failure to effectively monitor the progress of project according to the schedule' mainly due to their busy schedules. Conversely, owing to the lack of knowledge and prior experience in reengineering business processes, Case B had encountered two issues i.e. 'lack of time to develop new skills for the re-designed process' and 'lack of top management commitment and support'. It was interesting to note that Case C which is a leading telecommunication services provider in the country had faced some legal issues while proceeding

with implementation. This may be attributed to the fact that they were involved in reengineering all the processes associated with a particular product designed for its customers.

Issues faced in Post-BPR implementation phase: All three cases with in-house team led BPR projects had faced 'difficulties in measuring performance of the reengineered process'. Thus, it appears that there is a general lack of knowledge on performance measurement methods within client organisations despite their level of experience in BPR projects. Besides, findings revealed that 'communication issues between process owner and other organisational members' was the one and only issue faced by Case D in this phase, which may be attributed to the good practices adopted by BPR consultants in this phase.

'Lack of top management support' for BPR effort was another main issue faced by both Case A and B. This issue had made it considerably hard for parties in Case A to effectively monitor the project progress and ensure that the project stayed on schedule. Similarly, in Case B this had caused difficulties in establishing an appropriate employee compensation incentive that could be used to encourage staff to work under the new process. This in turn had resulted in 'lack of employee involvement' in redesigned process in Case B. Additionally, 'lack of appropriate planning' was highlighted by Case C respondents as a key issue faced by them under this phase, which had led them to face two more issues in this phase: i.e. 'difficulties in obtaining feedbacks from the end users' and 'lack of time to develop new skills for the re-designed process'.

Overall, from Table 3 it is clear that 'lack of top management commitment and support' is the one and only issue faced by these selected cases throughout all three phases of the projects. Besides, it can be ascertained that 'failure to commit required resources for BPR effort', 'uncertainty about BPR project's time frame' and 'project participants' conflict between team responsibilities and functional responsibilities' are the issues encountered by the selected cases in both Pre-BPR implementation and BPR implementation phases. Conversely, 'lack of appropriate planning', 'lack of time to develop new skills for the re-designed process', 'poor communication between BPR team members and other organisational members', and 'failure to effectively monitor the progress of the project according to the schedule' are the issues faced by the selected organisations in both BPR implementation, and Post-BPR implementation phases.

4. Discussion of findings

Even though literature provides a list of sixty-four (64) issues in implementation of BPR projects (for e.g. Grover et al. 1995), there was a general lack of attention given to identifying the issues that may occur in different phases of BPR projects. However, from the case studies, issues which may occur in each phase of the project were elicited (Refer Table 3).

Though some technological competency problems were elicited through the review of existing literature (Davenport 1993; Grover et al. 1995), the case study analysis did not disclose any issues relating to the technological aspects which highlights the existence of needed technical infrastructure and expertise within the selected organisations. Grover et al. (1995) and Van der Vyver and Rajapakse (2012) have identified 'lack of top management commitment' as a serious problem obstructing the success of BPR implementation. Similarly, findings revealed that 'lack of top management commitment and support' is the key issue experienced by the Sri Lankan organisations in Pre-BPR implementation phase. Tennant and Wu (2005) have specified resistance to change as one of the key implementation difficulties faced by the organisations. Since 'resistance to change' has been ascertained from the findings as the key issue confronted in BPR implementation, it seems to be in line with literature. Conversely, Davenport (1993) has stated project participants' conflict between team responsibilities and functional responsibilities is a major issue faced by organisations throughout their BPR efforts. Case study findings too divulged this as a key issue in BPR implementation phase. Though case study organisations had faced 'difficulty in measuring reengineering project performance' as a major issue in Post-BPR implementation phase, no authors have highlighted it as a key issue in the literature.

As a whole, among the BPR implementation issues derived in this study, twenty-four (24) issues are consistent with the literature while the remaining six (6) issues had been ascertained purely through the empirical findings (Refer Table 1 and 3). Besides, the majority, i.e. thirty-nine (39), of the BPR implementation issues identified through the literature were not faced by the selected case study organisations. These findings clearly distinguish the BPR implementation issues that could affect the successful execution of BPR projects in the Sri Lankan context.

5. Conclusions

Though BPR is considered as a key technique to alter the business processes within organisations to attain greater improvements in business performance, around seventy percent of BPR projects have resulted in failure (Dennis et al. 2003; Hammer and Champy 1993; Malhotra 1998; Nauman Habib 2013). This high failure rate of BPR efforts has raised the need for identifying issues in implementing BPR projects which may have substantial impact on BPR project success.

Through four (04) case studies, altogether thirty (30) issues faced by the Sri Lankan organisations in implementing BPR projects were identified under three phases (i.e. Pre-BPR implementation phase, BPR implementation phase, and Post-BPR implementation phase). 'Lack of top management commitment and support' was the key issue identified in Pre-BPR implementation phase, while 'resistance to change' and 'project participants' conflict between team responsibilities and functional responsibilities' were the key issues faced in BPR implementation phase. On the other hand, 'difficulty in measuring reengineering project performance' was identified as the key issue faced in Post-BPR implementation phase.

The findings of this study are useful for the practitioners in identifying the issues in implementing BPR projects that should be given enough consideration to assure the success of BPR projects. This research has opened up the opportunity for some new research directions, which could be done in the future. Since, in the existing literature there is no practical framework to guide the organisations in successfully reengineering their BPR projects, developing a framework for the successful implementation of BPR projects can be considered as a vital future research area.

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