

## DERIVING A RESEARCH AGENDA FOR A FINANCIAL SERVICE INDUSTRY'S METHODOLOGY FOR CARRYING OUT BUSINESS PROCESS RE-ENGINEERING

I.A. Kader<sup>1\*</sup> & B. Dwolatzky<sup>2</sup>

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#### Contact details

\* Corresponding author  
imtiaz.abdulkader@  
standardbank.co.za

#### Author affiliations

- 1 The Standard Bank of South Africa Limited
- 2 University of Witwatersrand South Africa

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### ABSTRACT

Why do projects fail? This is a question that has been researched across various project disciplines, including that of Business Process Re-engineering (BPR). This paper introduces a different angle on why BPR projects fail. An analysis of a case study conducted within a financial institution revealed new factors that could influence BPR project outcomes, but that have not been identified in the literature. The Organisation Ring of Influence model was developed to indicate the impact that organisation behaviours and structures had on the outcome of an executed BPR project. This model also helps to highlight which factors were more influential than others.

### OPSOMMING

Waarom misluk projekte? Dit is 'n vraag wat oor verskeie projek-dissiplines nagevors is, insluitende dié van besigheidsprosesherontwerp. Hierdie artikel stel 'n nuwe hoek bekend om die oorsaak vir projekmislukking te bepaal. 'n Analise van 'n gevallestudie, wat by 'n finansiële instansie geloods is, het nuwe faktore wat die besigheidsprosesherontwerp beïnvloed, onthul. Hierdie faktore is nie in bestaande navorsing geïdentifiseer nie. Die Organisasie-Ring-van-Invloed model is ontwikkel om die impak wat die organisatoriese gedrag en -strukture op die eindresultaat van 'n voltooië besigheidsprosesherontwerp projek gehad het, aan te dui. Die model help ook om die faktore wat meer invloed uitoefen uit te lig.

## 1 INTRODUCTION

A Google search on the words 'latest percentage of failed projects' will yield more than 41,900,000 results. Failure percentages of projects, ranging from 62 per cent to 68 per cent, are prevalent across various blogs and journal articles. Why have these projects failed? Surely, if you follow a set and proven method of executing a project that is associated with many successes, such high failure rates should not occur? The hard truth, however, is that these failed projects do exist - and the percentage of failures exceeds the percentages of success.

These project failures occur across various disciplines, including that of Business Process Re-engineering (BPR). A range of literature has been focused on the failure of these types of projects and the factors that influence their success, such as culture, executive sponsorship and buy-in, suitable deployment teams, and organisation adaptability [3,6,8,20]. If so much has gone into understanding why business process improvement-type projects either succeed or fail, why do a huge number of them still fail? [20]

This paper offers a view on why these types of projects fail. It aims to answer the following two questions by conducting a case study on BPR projects that are executed within a financial institution:

- 1 Has the literature uncovered all the factors that could positively or negatively influence the outcome of an executed BPR project?
- 2 Which factors influence the outcome of an executed BPR project the most?

Before describing the approach that was used in answering the above two questions, it is important to clarify what the literature defines as 'failed' or 'successful' BPR projects.

Failed projects are regarded in this paper as projects that did not successfully deliver all scoped functionality and requirements, projects that were completed later than planned, projects that went over budget, or a combination thereof. Failed projects will be further classified as those projects that have been cancelled prior to completion, irrespective of the reason for cancellation, and/or projects that have not realised the benefits stated within their business cases.

Success, on the other hand, refers in this paper to delivering the BPR project on time, on budget, with the agreed scope, and realising the business case benefits.

For this study, five projects in a financial institution were selected as case study units of analysis. These projects were analysed against influential factors derived from the literature. Further to this, a cross-case analysis was undertaken using the Fuzzy Qualitative Comparative Analysis technique (fsQCA), which was developed by Ragin [23].

The reason for selecting the setting of a financial institution was the fact that the major banks of South Africa have been recently observed as aggressively pursuing cost savings by introducing BPR initiatives. Methodologies that have been adopted as silver bullets, such as Six Sigma and Lean Engineering, were not yielding the anticipated results [7]. Examples of this can be seen in organisations such as Motorola and General Electric, who achieved or exceeded their desired benefits [2,17]. This context provided a perfect setting in which a case study could be conducted.

The next section provides an analysis of the existing literature.

## 2 LITERATURE ANALYSIS

A famous quote known to the BPR fraternity is as follows:

*"Reengineering is the fundamental re-thinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service- and speed" [16].*

This suggests that change should not be driven by what we know of how we do things, but by how we should be doing things that we know - that is, being normative rather than descriptive. From this quote, one can assume that business process change is driven by an organisation's purpose and capability, which are aligned to the organisation's strategy, structures, and operating models, and further directed by outside influences such as customer requirements and legislation. These elements are factors that can potentially influence the outcome of a BPR project. The literature review for this study therefore focused on recent research that looked at the focus of BPR projects and the factors identified as those that influenced the outcome of an executed BPR project.

Figure 1 summarises the key literature on BPR project executions that was engaged with for this study. It highlights the positive outcomes of the research conducted in each paper, as well as the gaps in these papers that need further research.

This summary highlights that excellent research has been conducted on the mechanics of business process re-engineering and design, particularly with regard to the availability of step-by-step guidelines for conducting analysis and modelling of to-be solutions, by means of various tools and proposed notations [13,15,19,20]. Major research has also been conducted on understanding the success and failure factors associated with BPR project implementations [7,15,22]. Table 1 summarises the factors that were extracted from the reviewed papers.

Taking the information synthesised from the literature review, five BRP projects that were executed within a financial institution were analysed against these factors. The results of this analysis are presented in the following section.

<p><b>Business Process Engineering: A Consolidated Approach</b> S Muthu, L Whitman, SH Cheraghi, 1999</p>	<ul style="list-style-type: none"> <li>• Descriptive</li> <li>• Strategy Alignment</li> <li>• Project Planning</li> <li>• Change Management</li> <li>• Customer and Process</li> <li>• Centric Business Process Improvement</li> <li>• Proposed BPR Project Execution Methodology</li> </ul>	<ul style="list-style-type: none"> <li>• Not Prescriptive</li> <li>• Not Architecturally Aligned</li> <li>• Not Holistic</li> <li>• Consolidates Methodologies</li> <li>• Industry Agnostic</li> <li>• Basic Project Management Integration</li> <li>• No Measurement Framework</li> <li>• No Method Selection Framework</li> </ul>
<p><b>The Implementation Business Process Engineering</b> V Grover, S Ryoul Jeong, W J Keitinger, J T C Teng, 1995</p>	<ul style="list-style-type: none"> <li>• Descriptive</li> <li>• Problem Identification</li> <li>• Impacts to Project Success</li> <li>• Industry Generic Study</li> <li>• BPR Project Success Factors</li> <li>• Benefit Realisation Impacts</li> </ul>	<ul style="list-style-type: none"> <li>• No BPR Project Execution Solution Proposed</li> <li>• Industry Agnostic (Manufacturing Verse Service)</li> </ul>
<p><b>What are the critical success factors for Lean and/or Six-sigma implementations in South African Banks?</b> J David, 2008</p>	<ul style="list-style-type: none"> <li>• Descriptive</li> <li>• Problem Identification</li> <li>• Impacts to Project Success</li> <li>• Banking Industry Study</li> <li>• BPR Project Success Factors</li> <li>• Sources of Benefits</li> <li>• Success Factor Prioritisation</li> </ul>	<ul style="list-style-type: none"> <li>• No BPR Project Execution Solution Proposed</li> <li>• Deployment and Implementation Phases only</li> <li>• No Framework For Testing Benefit Realisation (Project Success)</li> </ul>
<p><b>Best Practices in Process Redesign: An Overview and Qualitative Evaluation of Successful Redesign Heuristics</b> H A Reijers, S L Mansar, 2004</p>	<ul style="list-style-type: none"> <li>• Prescriptive</li> <li>• Summarises Business Process Design Best Practices</li> <li>• Framework / Checklist for Deciding on Best Practices</li> <li>• Focus on Mechanics of Actual Process Design (Best Practice Principles)</li> </ul>	<ul style="list-style-type: none"> <li>• No Integration to a BPR Project Execution Methodology</li> <li>• Industry Agnostic (Manufacturing verse Service)</li> <li>• Social Aspects Ignored</li> </ul>
<p><b>Delivering Results: Evolving BPR From Art to Engineering</b> R J Mayer, P S deWitte, 1999</p>	<ul style="list-style-type: none"> <li>• Descriptive and Prescriptive</li> <li>• Focus on Mechanics of Actual Process Design (IDEF)</li> <li>• Project Execution Approach</li> <li>• BCD Development</li> </ul>	<ul style="list-style-type: none"> <li>• Not Holistic</li> <li>• Architectural Alignment is Descriptive</li> <li>• Industry Agnostic</li> <li>• Measurement Framework is Descriptive</li> <li>• No Method Selection Framework</li> <li>• Basic Project Management Integration</li> </ul>
<p><b>Collaborative Business Engineering: A Decade of Lessons From the Field</b> M Den Hengst, G J de Vrede, 2004</p>	<ul style="list-style-type: none"> <li>• Advantages for the Use of Collaboration and Simulation Tools</li> <li>• Service Industry Studies</li> <li>• Lessons Learned/Success Factors</li> <li>• Focus on Mechanics of Actual Process Design (CBE)</li> <li>• Prescriptive BPR Execution Approach</li> </ul>	<ul style="list-style-type: none"> <li>• Centered Around Two Failure Points (Stakeholder Involvement and Inadequate Process Analysis)</li> <li>• Organisation Treated as System, yet still not Holistic</li> <li>• No Method Selection Framework</li> <li>• No Measurement Framework</li> <li>• Project Management Excludes Major Failure Point: Change Management</li> </ul>

**O U T C O M E**

**G A P S**

Figure 1: Gap analysis of previous research

**Table 1: Influential factors derived from the literature**

Influencing factors identified in the literature	
1.	Resistance to change
2.	BPR philosophy not aligned to situation
3.	Poor stakeholder involvement
4.	Poor analysis of as-is processes
5.	Poor design of to-be processes
6.	Reluctance to invest in large BPR type projects
7.	Alignment of vision and goals
8.	Business Process Management
9.	Continuous improvement philosophy alignment to organisation strategy
10.	Correct benefit calculations - quantitative versus qualitative
11.	Communication
12.	Training of all affected stakeholders
13.	Motivation for all affected stakeholders
14.	Change management
15.	Team structure and engagement
16.	Aligned human resource policies
17.	Customer-centric process design
18.	Project management
19.	Project priority
20.	Standardisation of re-engineered products inclusive of processes
21.	Executive sponsorship and active project participation
22.	Compelling business case for change
23.	Use of a proven process improvement methodology
24.	Line management ownership
25.	IT awareness and understanding (Business process integration)
26.	Stable scope of work
27.	Radical versus incremental business process changes
28.	Project benefit expectations
29.	Project implementation time frame

### 3 CASE STUDY ANALYSIS RESULTS

Ten months were spent conducting the case study within a financial institution in order to gain practical insight into BPR project management and execution. The case study was based on observing five BPR-type projects through their journey of execution.

#### 3.1 Case study unit of analysis

The next few paragraphs provide a brief overview of the five projects that formed part of the case study.

The first project was based on re-engineering the head office client/customer service operations for the corporate sector of the bank. This included strategy alignment, Target Operating Model (TOM) definition and rollout, and the redesign of roles and responsibilities, which included job descriptions and key performance indicators. All of these would have been outcomes of the re-engineering of over 360 identified processes.

The second project was similar to the first, although it differed in the type of operations serviced within the bank, as well as the number of processes. This project was also presumed to be the most complex of the five projects. It was based on re-engineering the payment operations of the business and corporate sector of the bank, and included approximately 160 identified processes.

The third project formed part of a larger programme that focused on the re-engineering of the off-shore credit books with the aim of integrating them with the head office operations. This involved only design and recommendations with regard to business processes, without any confirmed implementations.

The fourth project, which was a spin-off from the first, focused on identical requirements, but differed in locality and concentrated on the organisation’s international business units.

The fifth project formed part of a larger transformational programme that looked at changing the Information Technology (IT) landscape, as well as the associated business operational processes.

The units of analysis - the above BPR-type projects - were analysed against the success factors identified in the literature [3,7,15,22], as presented in Table 1. This mapping revealed the emergence of new factors that have not been identified in the existing literature.

**Table 2: Mapping of case study research findings against findings in the literature**

Influencing factors identified from the case study	Influencing factors identified in the literature
Resistance to change	Resistance to change
BPR philosophy not aligned to situation	BPR philosophy not aligned to situation
	Poor stakeholder involvement
	Poor analysis of as-is processes
	Poor design of to-be processes
Reluctance to invest in large BPR type projects	Reluctance to invest in large BPR-type projects
Alignment of vision and goals	Alignment of vision and goals
Business Process Management	Business Process Management
Continuous improvement philosophy alignment to organisation strategy	Continuous improvement philosophy alignment to organisation strategy
Correct benefit calculations - Quantitative versus qualitative	Correct benefit calculations - Quantitative versus qualitative
	Communication
	Training of all affected stakeholders
Motivation for all affected stakeholders	Motivation for all affected stakeholders
Change management	Change management
Team structure and engagement	Team structure and engagement
Aligned human resource policies	Aligned human resource policies
	Customer-centric process design
Project management	Project management
Project priority	Project priority
	Standardisation of re-engineered products inclusive of processes
Executive sponsorship and active project participation	Executive sponsorship and active project participation
Compelling business case for change	Compelling business case for change
	Use of a proven process improvement methodology
Line management ownership	Line management ownership
	IT awareness and understanding (Business process integration)
Stable scope of work	Stable scope of work
Radical versus incremental business process changes	Radical versus incremental business process changes
Project benefit expectations	Project benefit expectations
Project implementation time frame	Project implementation time frame
Organisation management structure	
Organisation functions / Operations structure	
Single point of accountability and decision-making (inherent within organisation management structures)	
Organisation/Business politics	
Change adoption rate	

Table 2 illustrates the mapping based on case study observations and success factors identified in the literature. These success factors are called ‘influencing factors’ in this study because, it is argued, these factors influence the outcome of the project. The factors are listed in no particular order of importance, although the last five factors under the case study section were discovered during the case study observations. As part of the case study, the analysis revealed that certain elements found within the organisation structures and culture have an influence on the BPR project’s outcome.

The next step was to focus on the cross-case analysis, which aimed to uncover and understand which factors are more influential than others.

### 3.2 Cross-case study analysis

As mentioned previously, the fsQCA technique was used to conduct the cross-case study analysis. The nature of the technique required that the factors be categorised into types of influential factors in order to derive valuable insights. The technique itself stems from set theory, and revolves around creating a truth table that is then analysed with the aim of understanding set coincidence scores and conjunctural causation [23].

The set coincidence score reveals whether a category of influential factors belonged in a set that influenced a successful project or a failed project outcome. This assisted in claims made of a particular category; if present, it would most likely influence a particular project outcome. Conjunctural causation revealed which combination of factors would need to be present in order for a particular project outcome to be realised.

The following categories of influential factors, presented in Table 3, were derived against the backdrop of the case study units of analysis outcomes as presented in Table 2. The factors were also restated in a positive way, meaning that each factor is linked to a successful project outcome. This was important for the cross-case analysis, as it focused on understanding a set of successful projects and their associated linked factors as attributed by the case study unit of analysis results. Six categories were derived:

- Project Management (PM)
- Change Management (CM)
- Information Technology (IT)
- Management Support (MS)
- Organisation Behaviour (OB)
- Organisation Structure (OS)

**Table 3: Categorisation of the influential factors**

Factor category	BPR project success factor
PM	BPR philosophy between the project and organisation is aligned
PM	Analysis of as-is processes is of good quality
PM	Design of to-be processes is of good quality
PM	Project outcomes are aligned with the organisation's vision and goals
PM	The project benefit calculations are realistic and undisputed
PM	Project has a defined team structure with strong engagement and cohesion
PM	Project deliverables and outcomes are aligned with Human Resource's policies within the organisation
PM	Project process design is customer-centric
PM	Project is independently managed by an experienced Project Manager using an industry-accepted project management methodology
PM	Project is prioritised according to organisation strategy and value outcomes
PM	Project standardises re-engineered products and processes
PM	Project has an undisputed and compelling business case for change
PM	Project uses a proven process improvement methodology
PM	Project has an approved scope of work that is stable and/or managed according to proper change control processes
PM	Project benefit expectations are undisputed and measurable

**Table 4: Categorisation of the influential factors (cont.)**

Factor category	BPR project success factor
PM	Project implementation time frame is realistic and planned-for, based on approved scope
CM	No resistance to changes being introduced by the project
CM	Project has a detailed stakeholder mapping and engagement plan in place
CM	Project has an excellent communication strategy and it is executed accordingly
CM	Project identifies and trains all affected stakeholders
CM	Project deliverables and outcomes motivated all affected stakeholders
CM	Project has a detailed change management strategy and it is executed accordingly
MS	Executive sponsorship exists, and the executive sponsor actively participates
MS	Line management ownership of project delivery is prevalent
IT	Project team has strong IT awareness and IT understanding when considering business process integration into the IT system landscape
OS	Organisation has a formal <b>Business Process Management</b> structure in place
OS	Organisation has a management structure that supports project execution
OS	Organisation's functions/operations structure is stable during the execution of the project
OS	Single point of accountability and decision-making is applied on the project (inherent within organisation's management structures)
OS	Executive sponsor for the project remains stable
OS	Organisation has stable, standardised tools for business process analysis and design
OS	Organisation has a strong relationship with the delivery partner/vendor
OB	Organisation is eager to invest in large BPR-type projects
OB	Organisation has a continuous improvement philosophy that aligns with the organisation's strategy
OB	Selected BPR approach is aligned to the organisation's acceptance of change (radical or incremental)
OB	Organisational/Business politics do not influence decisions made on the project
OB	Organisation has a high change adoption rate

After applying the fsQCA analysis technique, the following results emerged:

- The presence of the 'Organisation Behaviour' factor, in combination with the 'Organisation Structure' factor, would most likely result in a successful BPR project being executed.
- The relative importance of the factor categories compared with each other, as presented in Table 4.

Using the above information, the Organisation Ring of Influence (ORoI) was developed. The aim of the model is to highlight the importance of organisational behaviours and structures in relation to the influence they have on executing successful BPR projects.

**Table 5: Relative importance of each category of influential factors**

Category of influential factors	Relative importance	Set coincidence value
OS	Core condition of high importance	0.54
OB	Core condition of high importance	0.54
PM	Complementary condition of medium importance	0.53
CM	Complementary condition of medium importance	0.47
IT	Complementary condition of low importance	0.5
MS	Complementary condition of low importance	0.31

### 3.3 Organisation Ring of Influence (ORol)

The Organisation Ring of Influence (ORol) is depicted in Figure 2, and covers the influential categories of ‘Organisation Behaviour’ and ‘Organisation Structure’. The model is centred on the influence of organisation structures and culture on the outcome of a BPR project.

‘Organisation/Business Politics’, which is an element of ‘Organisation Culture’, is defined as “the pursuit of individual agendas and self interest in an organisation without regard to their effect on the organisation’s efforts to achieve its goals” [9]. From this definition, it is easy to see how this behaviour, which forms part of the organisation’s culture, can influence the outcome of a BPR project.

‘Change Adoption Rate’, another element of ‘Organisation Culture’, is not to be confused with ‘Resistance to Change’. The latter is concerned with the deliberate and conscious decision of affected stakeholders not to accept any organisational change too readily. ‘Change Adoption Rate’, which can be influenced by resistance to change, concerns the ability of an organisation in terms of the period taken before any change is implemented and standardised within the organisation.

‘Business Function Structure’, an element of ‘Organisation Structure’, influences the success of a BPR project due to the value chain process philosophy. Process value chains can start in the ‘Product Design’ department and end in the ‘Sales’ department, which results in multiple process owners, disparate understanding of process, and disparate continuous improvement projects [1]. This phenomenon can result in re-engineering parts of a single value chain through different teams and different executive sponsors, without understanding the impact of the holistic nature of the value chain itself [1]. All parts of a process, if isolated and re-engineered, could result in the value chain being left worse off than it was before [1].

Organisation structure also determines ‘Management’ structures - a difficult one to understand in terms of how it influences the success of a BPR project. During the case study, it was observed that a matrix-type management structure can support a BPR project by having many senior stakeholders focused on a single goal, while on the other hand it could also negatively impact a BPR project by having many senior stakeholders with different goals trying to influence the direction of the project. Matrix management also adds many points of accountability and decision-making, and this was found to impact the payments project negatively.

The ORol model contains elements that are brought into the project simply as part of its inheritance, because the project was being executed within the organisation. As noted in the literature analysis of previous research, these elements are not considered as part of the execution of BPR projects, even though they could be considered the most influential factors in the outcome of a BPR project. These factors should, however, be considered whenever a BPR project is planned for execution. How this should be done is something that can be considered in future work.



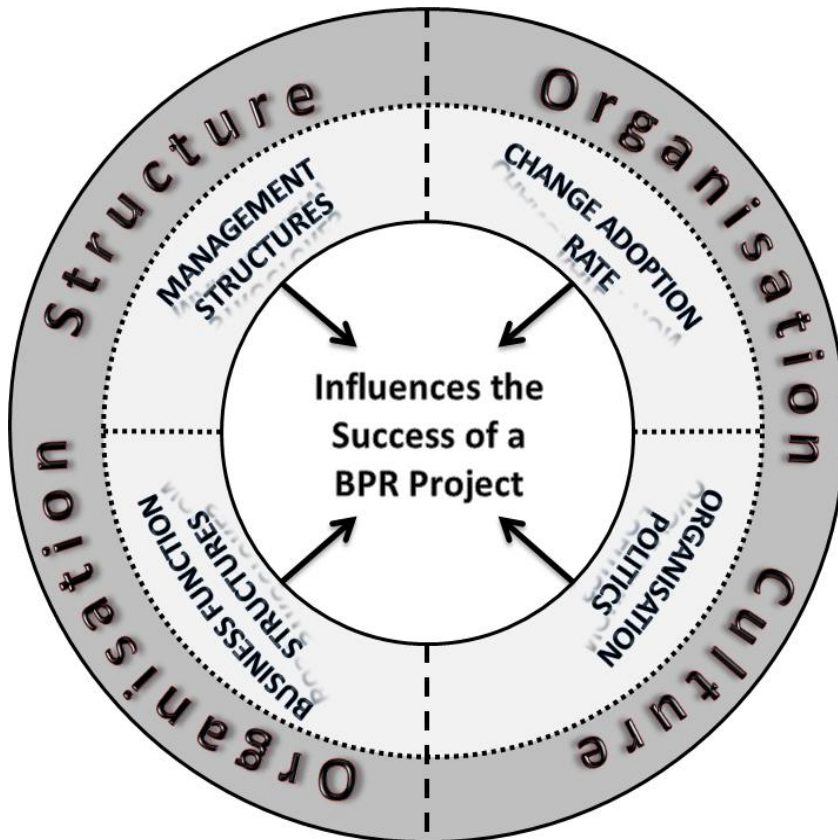


Figure 2: Organisation Ring of Influence (OROI)

#### 4 CONCLUSION

This study revealed that the literature did not cover all the factors that might influence a BPR project's outcome. By conducting a case study on five BPR-type projects over a period of ten months, the following factors were considered to be newly-identified factors that were influential in the success or failure of a BPR project:

- Organisation management structure that supports project execution;
- Organisation functions/operations structure remains stable during the execution of a project;
- Single point of accountability and decision-making is applied to the project (inherent within organisation management structures);
- Executive sponsor for the project remains stable;
- Organisation has a strong relationship with its delivery partner/vendor;
- Organisation/business politics do not influence decisions made on a project; and
- Organisation has a high change adoption rate.

From further analysis conducted during the case study and by applying the fsQCA technique, the relative importance of the various influential factors was revealed. It was found that the 'Organisation Behaviour' and 'Organisation Structure' factors were most influential on the outcome of a BPR project. This culminated in the OROI model, which was developed in order to explain the importance and influence that these types of factors have on the outcome of a BPR project.

The results of this research indicate areas for future consideration. For example, there is a need to understand better how one could approach the creation of understanding within an organisation about which influential factors are present in a positive or negative format. Furthermore, how should an organisation prioritise the mitigation of the identified negative influential factors?

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