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**SWP 13/95 ISSUES AND DILEMMAS FACING PUBLIC
AND PRIVATE SECTOR ORGANISATIONS IN
THE EFFECTIVE IMPLEMENTATION OF BPR**

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**Issues and Dilemmas Facing Public and Private Sector Organisations in
the Effective Implementation of BPR**

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ABSTRACT

Business process re-engineering (BPR) is a recent change phenomena that has grabbed the attention of those working in public sector and private sector organisations.

In the organisational sense BPR is identified as a key strategic initiative for achieving business improvement in the 1990s. The failure rate of such initiatives once undertaken, however, is reported to be quite high. Why should that be? This article provides some evidence as to why this could be the case. It draws on current literature which centres on three key debates, namely: classifying, planning and managing a BPR initiative. Each of these debates is discussed.

There is also a lack of empirical evidence of the importance and difficulties organisations face when undertaking a BPR initiative. It is all very well saying that you should follow a set plan for such an initiative, yet there is no indication as to how difficult it is to implement each stage of that plan. Hence, the Information Systems Research Centre, based at Cranfield School of Management, wished to address this issue.

The Centre undertook a survey of managers working in the public and private sector attending a Symposium. Five success factors were identified as key to the implementation of a BPR initiative, namely: 1. induction, 2. providing skills, 3. commitment to the project, 4. changing roles and systems, and 5. changing culture, attitudes and behaviour. The relative importance, difficulties and implications of these are discussed.

Issues and Dilemmas Facing Public and Private Sector Organisations in the Effective Implementation of BPR

Ashley Braganza
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Introduction

Business process re-engineering, process innovation, core process redesign are all terms that tend to mean the same thing. According to Klein (1994), whatever the term, it means the rapid and radical redesign of strategic, value-added business processes to optimise workflows and productivity in an organisation. To avoid confusion the term business processing re-engineering (BPR) will be used as far as possible throughout the article.

In the organisational sense, BPR is identified as being a key change initiative for achieving business improvement in the 1990s both for public and private sector organisations. Providing value for money, increased customer focus and cost-efficiency are important issues for organisations in both sectors. The relationship between these two sectors could therefore be described as a close one. BPR has been identified by financial institutions and a number of NHS Trusts, operating in the UK, as a potential success factor in times of change. However, it has been estimated that four out of five re-engineering projects are ultimately unsuccessful (Belmonte & Murray, 1993), which is a remarkably high failure rate. Undertaking a BPR project could therefore be viewed as a high risk operation for any organisation, be they in the public or private sector (we will term these organisations). Belmonte and Murray (1993) state that organisations can succeed if they are deliberate and conscientiously understand what they are undertaking.

In looking at the literature gaining such an understanding may not be that straight forward. Much of the literature centres around three key debates, namely: classifying, planning and managing a BPR initiative. Specifically many authors are anecdotal or illustrative with examples wew lending weight to their arguments. These various debates may be creating confusion for managers, as they tend to focus to varying degrees on what organisations should or should not do. There is very little empirical evidence highlighting how organisations have implemented a BPR initiative, or which issues are considered critical and which are not, or how difficult the issues are to implement. The purpose of this article is to address this problem.

In order to achieve this, the following article, as well summarising the current dilemmas facing organisations, in classifying and planning a BPR initiative, has attained empirical data from an exploratory survey carried out at Cranfield School of Management on organisations that have undergone a BPR initiative. Amongst other issues, such as awareness and why organisations have decided to undertake a BPR project, it addresses the importance and difficulties organisations attribute to a number of success criteria and the effect these can have on the organisation as a whole. The article concludes with some recommendations for organisations contemplating the implementation of a BPR initiative in the future. Firstly though, key issues from the BPR literature are summarised.

Why Undertake a BPR Initiative?

The CSC Index (1994), a survey of North American and European organisations, identifies two external factors as driving organisations into undertaking a BPR initiative, namely, increasing customer demand and increasing competition. By undertaking such an initiative it is identified that organisations are able to achieve

radical benefits (Klein 1994). Initial reports suggest that some organisations have achieved 150 per cent improvements in on-time deliveries (Hammer, 1990) and processing time of up to 25 days down to half a day (Butler Cox, 1991). The key reason, thus, as to why organisations undertake a BPR initiative is because it is a valuable addition to an organisation's business strategy in the face of increasing change and competition in the 1990s. Thus, it can be seen as a way of gaining competitive advantage.

Porter (1985) proposed a three stage progression to achieving a competitive advantage:

- Analyse the industry structure;
- Decide on a competitive strategy; and
- Implement the competitive strategy.

Undertaking a BPR initiative is identified as one such competitive strategy.

Radical Change for Competitive Advantage

Ostroff and Smith (1992) argue that organisations will increasingly be unable to respond to competitive pressures if they are structured vertically, that is by function. Although these organisations are able to achieve high levels of functional excellence and efficiency, they are slow to change, ill-equipped to learn and adapt to new challenges. Ostroff and Smith (1992) argue that the major problem with vertical organisations is that of coordination between departments and functions. They call for a new organisation design, namely the 'horizontal' organisation, which is built around business processes that cut across functional boundaries. They do not propose that the horizontal organisation should replace the vertical one but contend that organisations must find their own balance along the vertical and horizontal dimension.

Rockart and Short (1989) describe the process orientation as disintegrating the value chain of the organisation. The notion of moving from a functional to a cross-functional organisation is at the heart of redesign (Venkataman, 1991; Butler Cox, 1991; Hammer & Champy, 1993; Tapscott & Caston, 1993).

The characteristic associated with redesign is 'radical change'. This is because change is characterised often as either incremental or radical (Barzac et al 1987; Kotler, 1992). Hammer (1990) argues that for too long organisations have made incremental changes, by improving what was done earlier, within the functional structure. He pleads to CEO's not to 'pave cowpaths'. He argues that senior managers should question all assumptions and sacred cows. He asserts that:

"at the heart of re-engineering, is the notion of discontinuous thinking - of recognising and breaking away from the outdated rules and fundamental assumptions that underlie operation. Unless we change these rules, we are merely rearranging the deck chairs on the Titanic". Hammer (1990)

Kaplan and Murdock (1991) argue that organisations need to undertake a radical change when implementing process change. Davenport (1993) argues that his view is that redesign is radical as compared with Harrington's (1991) approach, which Davenport claims is incremental change. Tapscott and Caston (1993) argue that BPR involves the organisation in large scale, radical change. Belmonte and Murray (1993) suggest that BPR is radical and that incremental change will not suffice. Hall et al (1993) do not use the word 'radical' but state that the BPR change would involve the organisation in several large and expensive programmes, such as skills and training development, that could take years to complete - with the purpose of making the organisation more competitive.

Classifying BPR Initiatives

Benjamin and Levinson (1993) ask how radical is the change initiative, will the project be played in an 'Olympic stadium or a playground'? Here, they are concerned with the scope of the change. However, this type of question is open to a great deal of subjectivity and this is the current problem in classifying BPR initiatives. The question does not provide managers with any indicators as to the scope of the change. Nonetheless, this is a useful starting point for management thinking.

Using one dimension, scope, upon which to classify BPR initiatives, however, is not viable in summarising the literature. It is clear that classifying BPR initiatives requires two dimensions. These can be summarised as follows:

- *Scope*: which measures the number of functions brought together to form the process (Davenport & Nohria, 1994; Tapscott & Caston, 1993; Heygate, 1993; Rockart & Short, 1989).
- *Scale*: which measures the degree of change in terms of how radical is the BPR project (Edwards & Peppard, 1994; Morris & Brandon, 1993).

Hall et al (1994), based on a study of 100 organisations, 20 of which were in-depth case studies, classify a BPR initiative in a similar way, according to its breadth (scope) and depth (scale). They define these two dimensions as follows:

- *Breadth*. This ranges from one activity in a process to a process that crosses all functions in a strategic business unit.
- *Depth*. They argue that this dimension consists of six issues. These are roles and responsibilities, measurements and incentives, organisational structure, IT, shared values and skills. Depth is gauged by the extent to which some or all of these issues change.

Hence, the framework and issues that make up the scale dimension appears to be the most useful starting point for classifying BPR initiatives. Hall et al (1994) recognise that depth levers change but the authors do not provide a methodology for how the change will actually happen.

The issue of two dimensions, although not doubted, is the key debate. An area where there is a certain amount of confusion in the literature is the degree of subjectivity that exists when it comes to the interpretation of the two dimensions. This becomes evident when interpreting Heygate's model for example.

Heygate (1993) attempts to construct a framework to locate different BPR projects based on how radical each is. In this instance he equates 'radical' with the number of BPR initiatives an organisation undertakes and the degree of the change. He also attempts to assign methods for different levels of radical redesign. The framework has two dimensions: scope and performance yield (see Figure 1). Here, scope is determined by the number of BPR initiatives - one initiative involving one process or multiple initiatives across the organisation. Performance yield ranges from 'quick hits' to becoming a world class organisation.

INSERT FIGURE 1

There are two criticisms, however, for using the number of BPR projects as an indicator of radical. Firstly, it fails to recognise the nature of the change. Several incremental change initiatives does not necessarily make a

radical change. Secondly, Heygate appears to confuse radical with risk. Clearly the higher the number of radical BPR projects the greater the risk of failure. There is also a high degree of subjectivity involved in his framework. Obviously many organisations espouse that they are totally committed to becoming a world class organisation, but how often is the senior management team willing to change to achieve this status? It is not possible to determine this from Heygate's model.

Clearly, before classifying any initiative, for the path to be cleared, consensus has to be reached when defining the two dimensions.

Planning for Change

In this section the literature on BPR planning methods is reviewed, establishing the need for BPR plans and setting out the major problems in this area. It will review the debate of whether organisations should take a structured or a 'just-do-it' (JDI) approach to implementation. It will also establish that within the structured approach there is much confusion on how an organisation should take BPR forward.

Legge (1984) states that planned organisational change is where a desired future state for the organisation is known, and "conscious efforts are made on the part of those responsible for its initiation and implementation" (p18). The need for a plan to implement other types of change is well established. Savage and Lycoming (1991) argues that the total quality movement is successful because it is agreed widely that such changes should be planned. Ward et al (1990) argue it is essential that information systems and information technology (IS/IT) related changes are supported by a plan.

Organisations need to know 'how to implement' BPR, and to understand what are the critical issues that need to be managed. Much of the BPR literature examines developing plans and identifying the issues that are critical to the success of BPR. The importance of having a BPR plan is highlighted by Hagle (1993). He claims not having a clear plan as a key failure factor the BPR initiative.

However, comparing the literature highlights two problems. Firstly, there is a view that organisations need not, indeed should not, plan a BPR initiative. Instead, the suggestion is that a JDI approach to BPR should be taken. Secondly, there is very little agreement between the structured plans that are available to organisations. It is upon these two issues that we will now focus.

The BPR Planning Debate: To Plan or not to Plan?

Davenport and Short (1990) set out one of the earliest 'how to do BPR' plans. It explains in some detail, the actions required to implement a BPR initiative. They argue that, by the end of their plan, management would be in a position to implement BPR throughout the organisation. Hammer (1990), on the other hand, puts forward eight principles for 're-engineering' in stead of a plan. He argues that: "re-engineering cannot be planned meticulously and accomplished in small and cautious steps". This statement has far reaching implications. Plans that assist managers to take a structured or systematic approach to implement a BPR initiative are apparently redundant.

Hammer's perspective opens up two approaches on 'how to do' BPR: the structured plan-driven approach and the JDI approach. The former argues that the organisation should take a series of planned steps to implement a BPR initiative. The latter puts forward a series of issues against which managers can gauge the potential implementation of a BPR initiative.

Kaplan and Murdock (1991) and Harrington (1991) have quite different views on BPR. Yet both argue against Hammer's JDI approach. Kaplan and Murdock argue that as BPR requires radical changes in the whole organisation:

"The scope of the effort, therefore, requires that companies take a broadly-based, structured, and phased approach [to implement BPR]" Kaplan and Murdock (1991, p35)

Although Harrington's approach to BPR is through incremental (rather than radical) changes, he argues that managers need sophisticated and fully thought through plans. Morris and Brandon (1993) also provide a plan for 'how' the redesign initiative should be implemented. They argue that managers need to take a structured and uniform approach to BPR. Belmonte and Murray (1993), however, argue strongly against a structured approach. They assert that BPR requires creativity, and that a formal plan provides organisation with a false sense of security. They advocate that organisation should use a mixture of descriptive tools to encourage discussion and creative thinking.

More recently, Hagle (1993) and Heygate (1993) introduce a variation on the JDI approach to BPR. They provide a series of self diagnostic questions that enable managers to assess whether plans used by their organisation will lead to a successful BPR initiative. Yet there are others put forward *both* a planned and a more unstructured approach. Dichter et al (1993) provided a 'road map' with a series of structured steps for organisations to follow when implementing BPR. However, one of the stages in their map is for the organisation to develop its *own* plan. Tapscott and Caston (1993) provide both a plan and a set of guide-lines for implementing BPR.

Implications of the Two Views

The key feature of this debate is that the basis upon which organisations select a plan, whether structured, or JDI, is not at all clear. In a recent IMPACT survey (1993), the authors state that their research shows that organisations use several approaches to implement BPR and that each of these approaches has produced large improvements in time, cost and quality. What, if any, conclusion can one draw from this? How does an organisation decide which method is most appropriate? How can organisations share, plan and learn from one another? The report concludes by stating that a key question remains unresolved: "are certain approaches to BPR more desirable in given situations?" (IMPACT, 1993 p17). But the 'given situations' are not defined.

Morris and Brandon (1993) argue that the BPR plan should vary depending on the nature and scope of the BPR initiative, rather than on the functional scope only. Heygate (1993) links explicitly the choice of method with the degree of change (level of 'radicalism') and the scope of integration (single function or whole organisation) of the BPR initiative. Hence, the imperative for a BPR classification scheme so that actions can be targeted to achieving the BPR change.

A Comparison of Structured Plans

There is very little agreement between the various plans published in the literature. Table 1 below shows that there is very little commonality in the various planning stages. The most common stage, suggested by six out of the seven authors, is to identify processes. No other stage was chosen by as many commentators. The two next most common are developing a vision and mapping current processes. What is not evident, for example, is: should a vision be developed in all BPR projects or only for some projects?

INSERT TABLE 1

The order in which each stage of a plan should be carried out varies greatly. For example, the stage of 'Redesign the Processes' has the following profile: it is not included in three plans; it is the second stage in two plans; the third stage in one plan; and the fifth stage in another. Another feature of the plans is that there is very little agreement on 'how' each stage is carried out. For example, organisations are urged to 'Measure current processes'. Davenport and Short (1990) argue that this should be done on a 80/20 basis and in relation to the objective of the redesign initiative. Harrington (1991) argues that processes should be flowcharted in detail, and measured for actual and elapsed cycle times, and cost. He prescribes how each step should be taken.

To date the literature appears to have focused on classifying and planning a BPR initiative, the following section talks about implementation and uses empirical evidence where possible.

Managing BPR Initiatives

Several authors argue that managers need to focus on a set of critical success factors or key issues when implementing BPR. These key issues were examined and Table 2 shows how these are to be managed.

INSERT TABLE 2

To begin with, there is little agreement over what are the key issues that need to be managed to successfully implement a BPR initiative. What emerges is that only one issue, gaining executive support, receives almost unanimous support. But this issue is called for in other types of change programmes [see Juran (1993) in quality, Ward et al (1990) on IS/IT, Senge (1990) on learning organisations and Hambrick et al (1993) on a comprehensive study of executive commitment to change]. Furthermore, it is not fully apparent whether these issues are critical for all BPR initiatives or specific types of initiatives.

Empirical Evidence

There is very little empirical evidence on what approach organisations should take. Two surveys (IMPACT, 1991; Ernst & Young/ICL, 1992) of organisations that have started BPR projects show that there is a trend towards organisations developing their own plans. The IMPACT report is based on a research project to develop a guide to best practise in BPR (Dale, 1991). The report is based on BPR literature and interviews with senior managers of organisations implementing BPR. The focus of the report is 'how should organisations commence a BPR initiative'. The key observation made in the report is that there is no one methodology or plan for implementing BPR.

Ernst & Young and ICL (1992) commissioned an independent survey on BPR. A sample of 100 organisations from the Times 1000 were selected. Of the sample, directors and senior managers from 37 organisations were telephone interviewed. One third of the respondents were IT directors, the rest were from other disciplines. Twenty seven of the 37 organisations stated that they had started a BPR initiative. One of the key findings from the survey was that the 27 organisations had used a variety of implementation techniques.

The problem with these studies and the three key debates discussed above is that they identify issues to which organisations should attach some importance. They do not indicate how difficult it is to achieve each of them nor do they highlight relative importance between the issues. This becomes clear when using the analogy of a senior manageress who decides to change career. This could be viewed as a radical change, as it could effect, amongst other things, her social life, financial status and degree of knowledge. In order to achieve this objective, she may form a plan. One step in that plan could involve participating on an MBA programme. The

plan could also involve relocating and obtaining funding to cover tuition costs. While she can prioritise intuitively the steps within that plan for it to be realised, the relative importance of and difficulty to achieve each step is hard to grasp. One could therefore argue that more studies addressing the issues surrounding relative difficulty and importance are required in order to facilitate the process for future managers switching careers. The same could be said of organisations undertaking a BPR initiative.

As such studies are limited in number, the following section is able to contribute further to this debate based on empirical evidence from a study undertaken at Cranfield.

The Study

BPR is one of the areas that the Information Systems Research Centre, based at Cranfield School of Management is interested in. The current debates in BPR prompted the Centre to host a two day symposium to ascertain an understanding of current BPR developments in organisations. For the purposes of recording views a survey was carried out.

Method

A questionnaire, eliciting qualitative as well as quantitative information, was distributed to 65 participants from public and private sector organisations attending the Cranfield symposium. The questionnaire was designed to obtain data on a number of issues, for example, the overall degree of awareness of BPR within the organisation. It also captured information on those organisations that had undertaken a BPR initiative on the following issues:

- Why had such an initiative been undertaken;
- How does it fit in with other change initiatives within the organisation;
- The degree to which external advice was taken on implementation; and
- Views on critical success factors or key issues when implementing BPR. These factors are shown in Table 3 below.

INSERT TABLE 3

The factors listed in the above table, drawn from the literature cited earlier and from practical consultancy experience, were set out to gauge the relative importance respondents attached to each of them when implementing a BPR initiative. Scores were recorded on a seven point scale (from 1=not important to 7=very important). Respondents were also asked, on the same set of criteria, how difficult it was for each one of them to be achieved. A seven point scale was used again here (from 1=not difficult to 7=very difficult).

The Sample

Not all organisations that attended the Cranfield symposium had commenced a BPR initiative, some were likely to undertake an initiative in the future and hence were at a learning stage. However, they were able to respond about the awareness of BPR within their organisation. The focus of the study is based on organisations that have begun to carry out a BPR project in their organisations. This obviously had the effect of reducing the sample size, from 65 to 23, but still included public as well as private sector organisations. However, BPR is a relatively new phenomenon and one would therefore not expect a large population of organisations undertaking it currently. Nevertheless the survey has thrown up some interesting issues which

demand consideration as they could provide useful indicators for public and private sector organisations intending, as part of a competitive strategy, to implement a BPR initiative in the future.

Results and Discussion

The results of the survey were analysed and the key findings are discussed under the headings identified in the method section above.

Awareness

On average, the chief executive had the highest degree of awareness of BPR. This supports the literature as the CSC Index (1994) indicates that BPR is a top-down initiative and that CEOs act as an important catalyst in helping to launch an initiative. IT managers and the functional directors also had a fairly high degree of awareness (see Table 4 below). The IT managers appear to have a much higher level of awareness than line managers from other functions and the organisation as a whole. This tends to reinforce the view that BPR is still seen as an IT issue rather than as a way of improving customer focus or implementing the organisation's strategy. Clearly if this situation persists then BPR could equate to 'a new IT system' which simply automates manual processes and improve short term efficiency.

INSERT TABLE 4

Another issue to emerge is that the organisation as a whole is barely aware of the existence of BPR when compared with the senior level of management. This suggests that many public and private sector organisations, although using cross functional teams, may not be effectively communicating internally the work being undertaken by the BPR team. Another way of looking at this is that organisations are taking an 'enlightened room' approach: where the BPR team brain-storm, create, develop, 'brown paper map' processes and plan perfect processes which never get implemented when the rest of the organisation sees them. Effective internal communication is therefore an essential requirement to the success of a BPR project. Yet the survey points to communication being one of the most difficult issues to achieve. BPR change therefore needs to be communicated effectively throughout the organisation so that management and employees are fully aware of what is happening. Planning BPR behind closed doors gets the rumour machine working and can only be detrimental to implementation of the change.

Key reasons for doing BPR

When asked why their organisation was undertaking a BPR initiative, cost reduction was the most frequent response given. However, most respondents focused specifically on reducing the "cost of the process" rather than cuts in head count. Only one respondent mentioned head count reduction as the reason for doing BPR. This, of course, could reflect the current environment in which head count reduction, downsizing, and redundancies are talked about in hushed tones but is on the organisation's agenda.

The next most common reply was reducing cycle times. This would support what many organisations see as a key competitive issue in the 1990's, that is time (Stalk 1988). Ford and Kodak are well known examples of organisations that have been recently cited as shortening their product development cycle times by using a process rather than a functional structure.

The third reason given by respondents is improving customer service. This is a worthy aim and invariably would be on most managers' wish list. However, it is not apparent how this will be achieved if BPR is seen as

an IT issue or only senior managers are aware of BPR while the rest of the organisation 'continue as normal'. It is also not at all clear how public and private sector organisations will achieve this aim when "ability to focus on customer" was a requirement only four respondents would seek in a cross functional BPR team.

Change Initiatives

In the overall sphere of organisational change, BPR could be seen as another change phenomenon. The results of the survey tend to support the views of Duck (1993), who argues that at any one time an organisation may have several change initiatives taking place, and Morris & Brandon (1993), who assert that organisations should position their BPR initiative alongside other change initiatives. Duck (1993) states (p110) that "an organisation may simultaneously be working on TQM, process re-engineering, employee empowerment, and several other programs" for example. The results show that the relationship other change initiatives - in this case, quality management, strategy review, culture change and IS/IT change - have with the BPR initiative are, on average, fairly strong (see Table 5).

INSERT TABLE 5

Use of External Advice

Interestingly, 13 out of the 23 respondents indicated that they had used external consultants for the BPR project. However, the majority of these (10), had only used consultants mainly for skills transfer and not for the implementation of the initiative. This would suggest that the responsibility for the implementation of a BPR initiative is in the hands of a steering group or a BPR 'champion'. This result is quite encouraging as it indicates that management want to own and control the BPR initiative by indicating the change management skills in the organisation. A possible consequence of this, which reinforces the difficulty of planning a BPR initiative is that organisations may be going about the implementation of the initiative in totally different ways.

Critical Success Factors and Key Issues

The average scores for each of the items illustrated in Table 3 above were calculated to ascertain the degree of *importance* and *difficulty* each respondent attached to them. These two dimensions were then plotted on to a graph (see Figure 2).

INSERT FIGURE 2

The items seem to link up in the figure into five different groupings, to what we have defined as: induction; providing skills; changing roles and systems; commitment; and culture, attitudes and behaviour. Each of these will now be discussed.

1. Induction

Many of the theoretical arguments brought forward in the literature have tended to focus on the issues such as doing a cost-benefit analysis and putting a cross functional steering group in place. These we have defined as induction issues and they fall into the first grouping. These do not appear to have been difficult to achieve and are thus not really critical issues. One could consider these as 'hygiene' factors - if they are not in place they could create problems at a later stage.

2. Providing Skills

On the other hand, issues which are considered important in the survey such as changing individuals' assessments, providing staff with different skills and introducing team-work, although mentioned as important in the literature are rarely dealt with in any detail. However, it is likely that both public and private organisations have addressed some of these issues by hiring in external consultants.

3. Commitment to the Project

Another potential reason that a project may be unsuccessful is due to the lack of commitment to a project because of poor communication and conflicting views within the organisation. Butler Cox (1991) indicate that the degree and nature of change can cause bitter disputes in many organisations.

Much of the literature focuses upon the importance of CEO involvement. The Cranfield survey highlights that gaining CEO commitment is a necessary but not sufficient condition for effective implementation. Often managers find it hard to accept the changes and this leads to lack of commitment to the project. Obviously lack of support does not bode well for a BPR project - especially one that is radical. Heygate (1993) states that organisations face considerable danger in situations where the management team fail to agree when radical change rather than incremental improvements is desired. He asserts that the likelihood of the BPR project not achieving its expected results are much greater when consensus is not achieved. He says:

"Without a clear, shared view about the proper level of radicalism early on, management expectations will vary ... making disappointment likely and confusion inevitable". Heygate (1993)

In terms of this survey, at the highest levels in the organisations there appeared to be a high degree of awareness of BPR. However, this does not necessarily mean that there is commitment to the BPR initiative. There was a significant difference between the perceived relative ease of gaining the chief executive's commitment when compared with other functional directors. Clearly it may be perceived that some functional directors may lose 'parts of their empire' when moving to a process orientation and are likely to defend their interests. This of course exposes the potential difficulty managers face when attempting BPR implementation. This also has deeper implications: namely, for how long could the chief executive sustain commitment to the BPR initiative when his or her directors maybe somewhat hesitant or against it. So, the survey highlights the necessity for an organisation to obtain functional directors commitment at an early stage of the implementation process to ensure that there is a shared view.

4. Changing Roles and Systems

The survey highlights the importance of changing the roles of functions, reporting lines and reward systems. It also shows how difficult it is for organisations to achieve them. These issues are likely to be critical factors for the success of the BPR project. They are critical for two reasons. Firstly they will have an effect on how individuals and functions will perform, and secondly, the role they play in influencing attitudes and behaviours and ultimately the culture of the organisation. Thus, this grouping and the next grouping are likely to be closely linked through some kind of causal effect. Unfortunately, this effect cannot be tested in the current study because of the small sample.

In a qualitative study of 14 organisations, Kerr and Slocum (1987), while they recognise that reward systems are not a panacea, state that they are a primary method of achieving control of the organisations' members in

relation to behaviours and attitudes. From their work, they conclude that reward and recognition mechanisms "reinforce the values and norms that comprise corporate culture". They also conclude that organisation cultures can be changed gradually through changes in performance criteria and reward systems.

5. Changing Culture, Attitudes and Behaviour

As highlighted in the literature and confirmed by the results, culture, attitudes and behaviour are considered important and difficult to achieve. Yet cultural change is often seen as a key determinant of a BPR initiative. It is therefore highly important to ensure that BPR is communicated effectively throughout the organisation. The CSC Index (1994) recognises that this is not an easy task, the results of the Cranfield survey support this.

Effective communication leads to employee trust and Peters and Waterman (1982) argue that employees' respond quickly to change when the organisation creates a culture that they relate to and share. Managing culture (Dahler-Larsen, (1994) leads to benefits in terms of "gaining innovativeness, productivity and competitive advantage". However, Kerr and Slocum (1987) argue that changing culture is not easy:

"Culture itself is rooted in the countless details of organisational life. How decisions are made, how conflict is resolved, how careers are managed - each small incident services to convey some aspect of the organisation's culture to those involved. Given the pervasiveness of culture, it is not surprising that managers are frequently frustrated in their attempts to change it". Kerr and Slocum (1987)

This highlights a potential problem, namely that in the pursuit of making cultural changes, BPR may not be fully achieved because changes in the organisation's culture are not accomplished. Perhaps the key to achieving the cultural, attitude and behaviour change lies in the middle ground which concerns changing reporting lines, skills and team working. As BPR is about cross functional change, it is not unreasonable to contend that once the functional directors and the CEO have committed to the initiative, changing the roles of the functions, reporting lines, skills are likely to make BPR implementation easier. It is conceivable that once these changes have been achieved, then attitudes, behaviour and culture could change over a longer period of time.

Summary and Recommendations

This article has provided an insight into current issues concerning BPR initiatives. It has focused on three key debates in the field, namely: classifying; planning; and implementing. As examples are rare, a survey carried out by Cranfield School of Management at its annual BPR symposium, addressed, and has provided some empirical evidence, what public and private organisations have accomplished when undertaking a BPR project. It highlights the importance they attach to a certain number of issues and how difficult they are to achieve in the implementation and the potential success of a project.

The results from the survey provide useful indicators for other organisations in these sectors contemplating a BPR initiative. For example, managers need to focus upon and manage some key issues when implementing BPR such as: gaining the commitment of functional directors; changing reward systems; shifting reporting lines from a vertical to a horizontal direction; providing people with a broader set of skills; and using teams to satisfy the end-to-end needs of customers. Too often the focus has been on changing the culture of the organisation. This change may be introduced more smoothly where the focus is on the aforementioned issues.

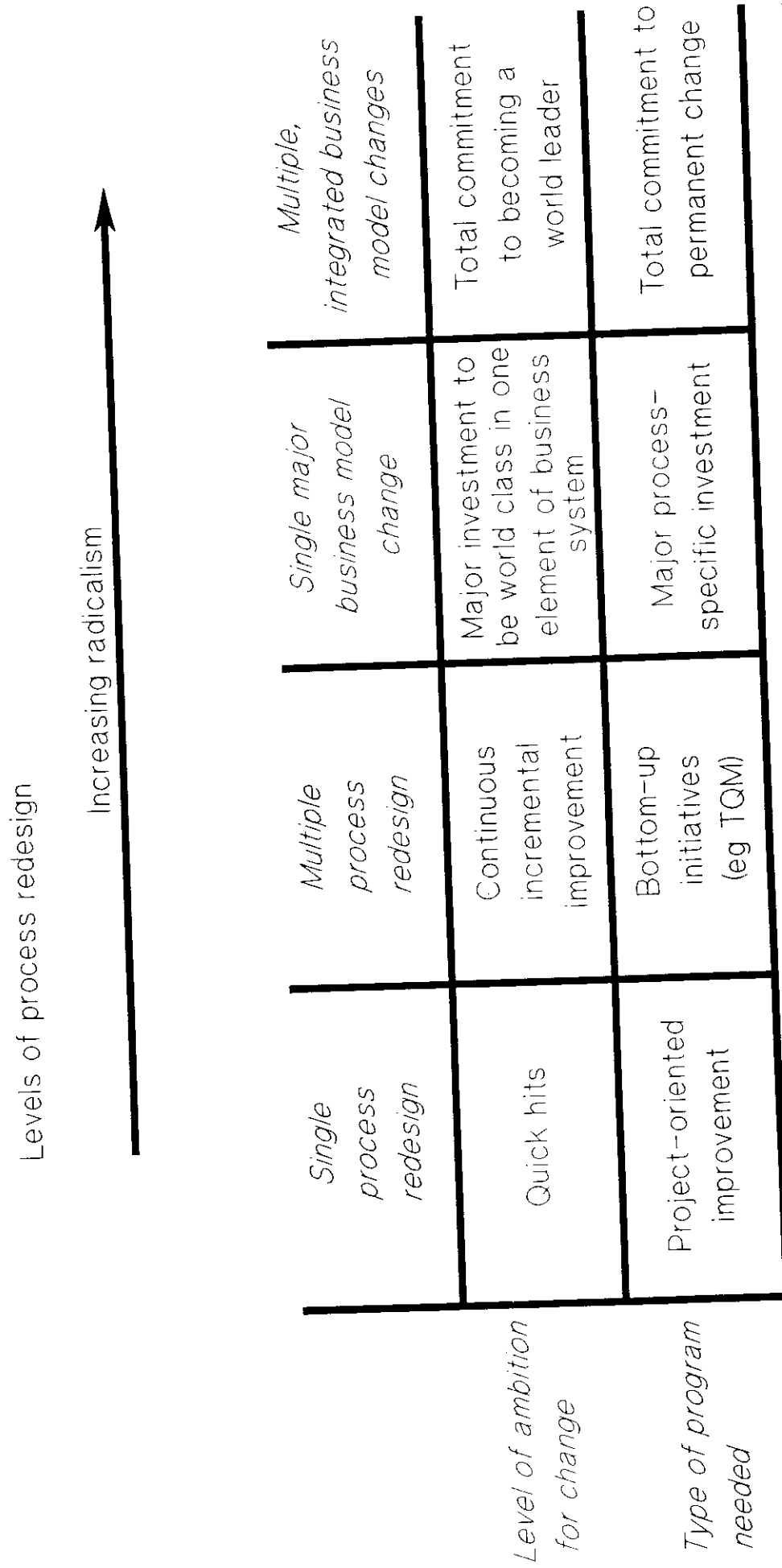
The results show that gaining the CEO's commitment is not sufficient to ensure effective implementation. The rest of the management team need to support the change if it is to work. Also, BPR continues to be perceived as an IS/IT issue. This perception needs to change as it is primarily a business issue in that it is an aspect of an organisation's strategy, be they in the public and private sector, to improve competitiveness.

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Figure 1: Heygate's Framework for BPR



Source: Heygate (1993)

Table 1 Stages of a BPR Plan

Author (see key below)	D&S	BC	K&M	H	M&B	D	T&C
Stages							
Develop a vision	✓①	✓①	✓④			✓①	✓①
Develop objectives	✓①	✓①				✓①	
Set stretch targets	✓①					✓①	✓②
Identify processes	✓②	✓②	✓①	✓①	✓②	✓③	
Map current processes	✓③		✓③	✓②	✓④		✓②
Measure current processes	✓③		✓②	✓②	✓④		
Identify IT enablers	✓④			✓③	✓⑤		✓②
Brainstorm	✓④				✓⑤		
Design prototype	✓⑤				✓⑤	✓③	
Implement	✓⑤		✓⑤		✓⑧		✓③
Redesign the processes		✓②		✓③	✓⑤		✓②
Establish new management structure		✓③		✓③		✓④	✓②
Gain staff commitment		✓④					
Develop new IS		✓⑤				✓④	
Measure / Benchmark new process			✓②	✓④ ✓⑤		✓②	
Map information flows			✓③		✓⑤		
Create BPR team				✓①		✓②	
Appoint BPR champion				✓①			
Define process scope, mission and boundaries				✓②	✓③		
Identify BPR initiative					✓①		
Do a high level cost analysis and process map					✓②		✓①
Select redesign initiative					✓③		
Evaluate cost of each initiative					✓⑥		
Select the best alternative					✓⑦		
Update models and document					✓⑨		
Identify opportunities/benefits							✓②
Develop a migration strategy							✓②
Continuous improvement							✓④

Alphabetic key of authors for TABLE 1 and TABLE 2

B&L	Benjamin and Levinson (1993)
B&M	Belmont and Murray (1993)
BC	Butler Cox (1991)
D	Dicher <i>et al</i> (1993)
D&S	Davenport and Short (1990)
EY/ICL	Ernst Young/ICL Survey (1992)
H	Harrington (1991)
H&C	Hammer and Champy (1993)
Ha	Hammer (1990)
Hag	Hagle (1993)
HALL	Hall <i>et al</i> (1993)
He	Heygate (1993)
IMPS	IMPACT Survey (1993)
K&M	Kaplan and Murdock (1991)
M&B	Morris and Brandon (1993)
O&S	Ostroff and Smith (1992)
T&C	Tapscott and Caston (1993)

TABLE 3: Success Factors

Steering group	Cross functional BPR team
Cultural change	Attitude change
Behaviour change	BPR pilot
Process modelling tools	External consultancy
Internal communication	Chief executive commitment
Functional director buy-in	Cost-benefit analysis
Identify intangible benefits	Changing the roles of functions
Changing reward systems	Changing individuals' assessments
Providing staff with different skills	Reducing head count
Changing reporting lines	Introduce team working

TABLE 4: Degree of Awareness

	<i>Mean</i>
Chief Executive	4.7
Functional directors	4.4
Line managers	3.4
IT manager	4.5
The organisation	2.8
1 = Not aware, 7 = Highly aware	

TABLE 5: BPR in Relation to Other Change Initiatives

	<i>Mean</i>
Total quality	5.1
Strategy review	5.4
Culture change	4.5
IS/IT change	4.7
1 = Very weak, 7 = Very strong	

Figure 2: Critical Success Factors

