

Cost benefit analysis of re-engineering the business process in Nigerian banks

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Abstract

This paper focused on analyzing the costs and benefits of Business Process Reengineering (BPR) in Nigeria drawing on a sample of ten (10) banks in Port Harcourt. The paper was intended to ascertain the worthiness of BPR projects in the banks. Two research questions (what are the benefits of BPR? and what are the costs of BPR?) and one hypothesis (there is no significant difference between the benefits and costs of BPR), guided the study. The result showed that there is a significant and positive difference between the benefits and costs of BPR. Consequently, it was concluded that BPR is a worthwhile exercise in Nigerian banks since the findings showed that the benefits outweighed the costs. Based on this, it was recommended that: BPR should never be carried out for the mere sake of it rather, it should be preceded by strategic planning, which addresses leveraging IT as a competitive tool; such an exercise should place the customer at the center of the re-engineering effort. This can be achieved by concentrating on re-engineering fragmented processes that impact negatively on customer service; for a successful BPR, there must be recourse to corporate culture while constant communication and feedback should not be ignored; to achieve maximum result from a BPR, it must be effort of the organization members and not that driven by a group of outside consultants or sections of the organization; a specific time frame between three to six months should be designated for any BPR project so that the organization is not thrown into a state of "limbo" although this may vary from organization to organization.

Introduction

Business challenges are as old as business itself. As varied as these challenges are, the duty of managers, business owners and professionals, is to invent solutions that adequately take care of these challenges; so that business processes can lead to achievement of corporate goals and objectives. Business Process Re-engineering (BPR) is one of such efforts at combating business challenges. Basically, it is the fundamental re-thinking and radical re-design, made to an organization's existing resources. Pryor (2011) sees BPR as an approach for redesigning the way work is done to better support the organization's mission and reduce costs. Usually, re-engineering starts with a high-level assessment of the organization's mission, strategic goals, and customer needs. Davenport (1990) posited that a business process is a set of logically related tasks performed to achieve a defined business outcome; and that re-engineering is the basis for many recent developments in management. The cross-functional team, for example, has become popular because of the desire to re-engineer separate functional tasks into complete cross-functional processes. The concept of BPR is believed to be applicable to all industries regardless of size, type, and location (Pryor, 2011). Experts claim it has a lot of benefits. Some of the more

obvious and common benefits according to Counter (2004) are: improved efficiency e.g. reduces time to market, provide quicker response to customers; increased effectiveness e.g. delivery of higher quality; cost saving in the long-run; provides more meaningful work for employees; increased flexibility and adaptability to change; enables new business growth. Irrespective of these benefits, Ponzi and Koenig (2002) claimed that BPR has often been criticized on the grounds that it makes some fundamental assumptions which may not be true; and offers no means of validating them; it totally disregards the status quo; it has often resulted in massive layoffs; and it does not provide an effective way to focus improvement efforts on the organization's constraint.

The debate for and against BPR has continued to dominate center stage. Some of those that argue in favour of re-engineering the business process include Hammer and Champy (1993), Davenport (1990), Counter (2004), Pryor and Pryor (1994) etc. While some of those that argue against it are Abrahamson (1996), Ponzi and Koenig (2002), Dubois (2002) etc. Literature shows that some organizations that implemented it reaped some benefits while some others are still counting their costs. This paper is not intended to take sides; but to critically examine and analyze the benefits and the costs of business process re-engineering; so as to draw a conclusion based on the findings and make recommendations thereof. Based on the above, we proposed that there is no significant difference between the benefits and costs of BPR.

History and Development of Business Process Reengineering of (BPR)

According to Weicher *et al* (2010), the concept of re-engineering traces its origins back to management theories developed as early as the nineteenth century. Citing the work of Taylor in the 1880's which suggested that managers could discover the best processes for performing work and reengineer them to optimize productivity; they posited that BPR echoes the classical belief that there is one best way to conduct tasks. Lloyd (1994) believes that in the early 1900's, Henri Fayol originated the concept of reengineering when he stated thus: "to conduct the undertaking toward its objectives by seeking to derive optimum advantage from all available resources." Lloyd also believes that the admonition of Lyndafi Urwick in the 1900s which states that; "it is not enough to hold people accountable for certain activities, it is also essential to delegate to them the necessary authority to discharge that responsibility" foreshadows the idea of worker empowerment which is central to reengineering.

However, the idea of BPR did not gain attention until 1990, when Michael Hammer published an article in the Harvard Business Review, in which he claimed that the major challenge for managers is to obliterate non-value adding work, rather than using technology for automating it (hence the need for reengineering). This idea was supported and popularized by the works of Davenport and Short (1990); while well-known management thinkers like Peter Drucker and Tom Peters accepted and advocated the use of BPR as a tool for achieving success in a dynamic business world. What follows was an accelerated growth of BPR in spite of critics' claim that it was a way to dehumanize the work place, increase managerial control, and to justify downsizing, i.e. major reductions of the work force, and a rebirth of Taylorism under a different label (Greenbaum, 1995). Granted that there were abuses and misuses of the concept, considering business processes as a starting point for business analysis and redesign has become a widely accepted approach and is a standard part of the change methodology portfolio, but is typically performed in a less radical way as originally projected. A more recent concept, Business Process Management (BPM) has come on board and may be considered as a successor to the BPR wave of the 1990s, as it is evenly driven by a striving for process efficiency supported by information technology. Again, BPM is also being accused of focusing on technology and disregarding the people aspects of change. According to Hammer and Champy (1993) business

process reengineering requires the “fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed. “ It could be seen as “the elemental rethinking and radical redesigning of the business processes in order to achieve remarkable improvements in critical measures of performance like cost, service, quality, and speed. It is the analysis and design of work flows and processes within an organization” (Kapoor, 2010).

Guidelines for Implementing Business Process Reengineering (BPR)

The first step in BPR, is an understanding of the reason for its implementation. Pryor (2011) posits that the intent of process reengineering is to make organizations significantly more flexible, responsive, efficient, and effective for their customers, employees and other stakeholders. According to him, there are several reasons for organizations to re-engineer their business processes: to re-invent the way they do work to satisfy their customers; to be competitive; to cure systemic process and behavioral problems; to enhance their capability to expand to other industries; to accommodate an era of change; to satisfy their customers, employees, and other stakeholders who want them to be dramatically different and/or to produce different results to survive and be successful in the long term; and to invent the “rules of the game.”

Pryor (2011) posits further that whatever the reason for reengineering, managers should ask themselves: What do our customers and other stakeholders want/require? How must we change the processes to meet customer and other stakeholder requirements and be more efficient and effective? Once streamlined, should the processes be computerized (i.e., how can information technology be used to improve quality, cycle time, and other critical baselines)? Processes must be streamlined (i.e., re-invented) before they are computerized. Otherwise, the processes may produce results faster, but those results may not be the ones needed. Hence, in order to guide against this, Carter (2005) advises that the best way to map and improve the organization’s procedures is to take a top down approach, and not undertake a project in isolation. That means: starting with mission statements that define the purpose of the organization and describe what sets it apart from others in its sector or industry; producing vision statements which define where the organization is going, to provide a clear picture of the desired future position; build these vision statements into a clear business strategy thereby deriving the project objectives; defining behaviours that will enable the organization to achieve its’ aims; producing key performance measures to track progress; relating efficiency improvements to the culture of the organization; and identifying initiatives that will improve performance. Once these building blocks are in place, Carter says the BPR exercise can begin.

However, before commencing the exercise, Pryor (2011) cautions that experts indicate that there are essential elements of process reengineering, including: initiation from the top by someone with a vision for the whole process and relentless deployment of the vision throughout the organization; leadership that drives rapid, dramatic process redesign; a new value system which includes a greater emphasis on satisfying customers and other stakeholders; a fundamental re-thinking of the way people perform their daily work, with an emphasis on improving results (quality, cycle time, cost, and other baselines); an emphasis on the use of cross-functional work teams which may result in structural redesign as well as process redesign; enhanced information dissemination (including computerization after process redesign) in order to enable process owners to make better decisions; training and involvement of individuals and teams as process owners who have the knowledge and power to re-invent their processes; a focus on total redesign of processes with non-voluntary involvement of all internal constituents

(management and non-management employees); rewards based on results; and a disciplined approach.

There are many reasons why process re-engineering fails. These according to Hammer (1995) and Kapoor (2010) are: not focusing on critical processes first; trying to gradually “fix” a process instead of dramatically re-inventing it; making process reengineering the priority and ignoring everything else (e.g, strategy development and deployment, re-structuring based on new strategies, etc.); neglecting values and culture needed to support process reengineering and allowing existing culture, attitudes, and behavior to hinder reengineering efforts (e.g., short-term thinking, bias against conflict and consensus decision making, etc.); settling for small successes instead of requiring dramatic results; stopping the process reengineering effort too early before results can be achieved; placing prior constraints on the definition of the problem and the scope for the reengineering effort; trying to implement reengineering from the bottom up instead of top down; assigning someone who does not understand Re-engineering to lead the effort; skimping on re-engineering resources; dissipating energy across too many Reengineering projects at once; attempting to re-engineer when the CEO is near retirement; failing to distinguish reengineering from, or align it with, other improvement initiatives (e.g., quality improvement, strategic alignment, right-sizing, customer-supplier partnerships, innovation, empowerment, etc.); concentrating primarily on design and neglecting implementation; pulling back when people resist making re-engineering changes (not understanding that resistance to change is normal).

Benefits and Costs of Business Process Reengineering (BPR)

Some of the common benefits of BPR according to Kapoor (2010) are:

1. Increases effectiveness. As all employees are aware of the processes to which they belong, they have a greater sense of responsibility. All processes are completely monitored under the strict control of the management. The net result of this is that employees deliver high quality products to their customers.
2. Helps to improve efficiency. Proper management and control of all business processes reduces the time lag between different processes, which otherwise is quite high causing delays. This in turn reduces the time to market the product to the target customers and gives quicker response to buyers.
3. Reduces cost. With the proper management of processes, improved efficiency and quick delivery of products to the buyers the overall product costs are reduced resulting in cost saving for the organization in the long run.
4. Meaningful job for employees. As the time lag of product processing between different departments gets reduced due to the application of business process reengineering, there are more meaningful tasks to be performed by employees. This leads to increase their levels of motivation and the desire to perform well.
5. Improvement in organizational approach; According to the traditional approach of managing an organization there is no flexibility or adaptability to change. The management formulated strict rules for employees of the organization. Whereas now, when most organizations have implemented business process reengineering there is an increase in flexibility and adaptability for change. This has created better environment for people to work, thus leading to employee satisfaction.
6. Growth of business: Implementation of BPR results in the growth of the present business thus enabling the emergence of new businesses within the same organization. Although BPR is very effective in controlling cost and improving efficiency, its implementation is a

hard nut to crack. Employees are very resistant to this kind of change thus, it is important to have extensive support from the top management.

Although the fruit of BPR is significant, Counter (2002) admonished that there are things (associated costs and disadvantages) to be fully aware of if one decided to go ahead with the project.

1. Although it is a very effective tool to reduce operation costs, BPR can be a painful process. Unless the company is willing to go through the pain, it should not start BPR.
2. Top Management support is very important. The senior management must be personally involved and lead the project. There will be resistance from some employees to carry out this project, without the clear and up front support of the top management; it will not be possible to make the project successful.
3. Be prepared for attrition of staff. If you are not ready to allow some less productive or less versatile staffs to leave, you cannot get the full benefits of the project.
4. Be patience. Once you start, you should not turn back. The tangible and intangible cost of abandoning the project is very high. BPR is a long term solution and not a short term fix.
5. Start now and do not procrastinate. Carry out the improvement process while you still can. It takes time to obtain approval of government grant and carry out the project. When your situation gets worse, it will be too late to do anything.

Apart from Counter's observation and admonition, there have been a lot of other criticisms against BPR. According to Dubois (2002), reengineering has earned a bad reputation because such projects have often resulted in massive layoffs. This reputation is not altogether unwarranted, since companies have often downsized under the banner of re-engineering. Furthermore, re-engineering has not always lived up to its expectations. The main reasons seem to be that:

- Re-engineering assumes that the factor that limits an organization's performance is the ineffectiveness of its processes (which may or may not be true) and offers no means of validating that assumption.
- Re-engineering assumes the need to start the process of performance improvement with a "clean slate," i.e. totally disregard the status quo.
- Re-engineering does not provide an effective way to focus improvement efforts on the organization's constraint.

Other criticisms brought forward against the BPR concept as provided by Goldratt (1985), include:

- It never changed management thinking, actually the largest causes of failure in an organization.
- Lack of management support for the initiative and thus poor acceptance in the organization.
- Exaggerated expectations regarding the potential benefits from a BPR initiative and consequently failure to achieve the expected results.
- Underestimation of the resistance to change within the organization.
- Implementation of generic so-called best-practice processes that do not fit specific company needs.
- Overtrust in technology solutions.
- Performing BPR as a one-off project with limited strategy alignment and long-term perspective.
- Poor project management.

The most frequent and harsh critique against BPR concerns the strict focus on efficiency and technology and the disregard of people in the organization that is subjected to a reengineering initiative. Very often, the label BPR was used for major workforce reductions. These notwithstanding, with determination and strong focus, business process re-engineering can bring about very significant improvement over the company's bottom-line.

Cost Benefit Analysis (CBA) Procedure

A cost benefit analysis is done to determine how well, or how poorly, a planned action will turn out (Keh, 2011). According to him, although a CBA can be used for almost anything, it is most commonly done on financial questions. The procedure involved, is to find, quantify, and add all the positive factors; these are the benefits. Then it identifies, quantifies, and subtracts all the negatives, the costs. The difference between the two indicates whether the planned action is advisable. The real trick to doing a cost benefit analysis well is making sure you include all the costs and all the benefits and properly quantify them (Abrahamson, 1996).

Methodology

This study involves a sample of ten (10) post consolidation banks in Port Harcourt. Since the elements of study are the banks, the target population consisted of the managers of the selected banks. The data for this study were collected through the questionnaire designed in five point scale response as in the Likert's method. Hence, the measures of the responses are: Very High extent (VH) - 5, High extent (H) - 4, Undecided (U) - 3, Low extent (L) - 2 and Very Low extent (VL) - 1.

After developing the instrument, copies were sent to experts in the field their inputs were reviewed and integrated into the final copy which helped to guarantee both the face and content validity of the questionnaire. The reliability of the instrument was ascertained through the test - retest method. The result showed a 0.79 stability thus guaranteeing the reliability. Mean and standard deviation were used for analysis the data generated for the study. Since we are looking for the difference between two sets of observations (benefits and costs of BPR), the t-test statistic for differences between means was used in testing the only hypothesis of the study.

Data Presentation and Analysis

On the benefits of BPR, the respondents were asked to indicate the extent to which the following factors serve as benefits of BPR exercise in their bank, and the result obtained is presented in Table 1 below. Mean and standard deviation were used for the analysis.

Table 1 Benefits of BPR in the Bank

S/N	Possible Benefits	VH 5	H 4	U 3	L 2	VL 1	Total Score	No. of Resp	Mean	Cut- off Point	Std. Dev	Remark
i.	Increased Effectiveness	3	4	2	1	-	39	10	3.90	3.00	0.94	Accepted
ii.	Increased Efficiency	4	3	2	1	-	40	10	4.00	3.00	1.00	Accepted
iii.	Reduction in overhead cost	6	4	-	-	-	46	10	4.60	3.00	0.49	Accepted
iv.	Making jobs more meaningful	2	3	4	1	-	36	10	3.60	3.00	0.92	Accepted
v.	Flexibility and adaptability to changes in the environment	7	3	-	-	-	47	10	4.70	3.00	0.46	Accepted
vi.	Business growth	3	3	3	1	-	38	10	3.80	3.00	0.96	Accepted

vii.	Quality service delivery	4	4	2	-	-	42	10	4.20	3.00	0.76	Accepted
viii.	Increased business strength and reliability	2	4	2	2	-	36	10	3.60	3.00	1.02	Accepted
ix.	Broadened the scope of operation	2	3	3	2	-	35	10	3.50	3.00	1.03	Accepted
							359		35.90	3.00	7.59	

Source: Survey Data, 2014

The scores 3.00 and above are accepted as applicable. These are: increased effectiveness (3.90); increased efficiency (4.00); reduction in overhead cost (4.60); making jobs more meaningful (3.60); increased flexibility and adaptability to changes in the environment (4.70); business growth (3.80); quality service delivery (4.20); increased business strength and reliability (3.60) and broadened the scope of operation (3.50).

On the costs of BPR, the respondents were asked to indicate the extent to which the following factors serve as costs of BPR exercise in their bank, and the result obtained is presented in Table 2 below. Mean and standard deviation were used for the analysis.

Table 2 Costs of BPR in the Bank

S/N	Possible Benefits	VH 5	H 4	U 3	L 2	VL 1	Total Score	No. of Resp	Mean	Cut- off Point	Std. Dev	Remark
i.	Cost of laying off employees	7	2	1	-	-	46	10	4.60	300	0.66	Accepted
ii.	Cost of acquiring new equipment	6	3	1	-	-	45	10	4.50	300	0.67	Accepted
iii.	Increased marketing cost	4	3	2	1	-	40	10	4.00	300	0.78	Accepted
iv.	Increased advertising cost	3	5	2	-	-	41	10	4.10	300	0.70	Accepted
v.	Increased training cost	4	3	1	2	-	39	10	3.90	300	1.14	Accepted
vi.	Increased Maintenance cost	3	3	2	1	1	36	10	3.60	300	1.28	Accepted
							247		24.70		5.23	

Source: Survey Data, 2014

Table 2 shows that the mean cut-off point is 3.00. Hence items with mean of 3.00 and above are accepted as applicable. These are: cost of laying off employees (4.60); cost of acquiring new equipment (4.50); increased marketing cost (4.00); increased advertising cost (4.10); increased training cost (3.90); and increased maintenance cost (3.60).

Hypothesis Testing

Ho: There is no significant difference between the benefits and costs of BPR in Nigerian banks.

As stated earlier, the t-test statistic for difference between means was used in testing the hypothesis as computed thus:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{n_1 S_1^2 + n_2 S_2^2}{n_1 n_2}\right) \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where

$$t = ?$$

$$X_1 = 35.9$$

$$X_2 = 24.7$$

$$n_1 = 10$$

$$n_2 = 210$$

$$S_1 = 7.59$$

$$S_2 = 5.23$$

$$= \frac{35.9 - 24.7}{\sqrt{\left(\frac{10 \times 7.59 + 10 \times 5.23}{20}\right) \left(\frac{1}{10} + \frac{1}{10}\right)}}$$

$$= \frac{11.2}{\sqrt{1.282}}$$

$$= \frac{11.2}{1.13}$$

$$t = 9.91$$

The result showed that $t_{cal} = 9.91$ while $t_{critical}$ at 0.05 level of significance is 1.96. Therefore we reject the null hypothesis and consequently conclude that there is a significant difference between the benefits and costs of BPR in Nigerian banks.

Discussions of Findings

The findings of the benefits analysis from numbers 1-5, are not surprising at all as they are in agreement with earlier postulations in the works of Kapoor (2010). The additional findings in numbers 6-9 may be explained by the effect of the recapitalization exercise of banks as mandated by the Central Bank of Nigeria. These exercises in the banks lead to mergers and acquisitions; which helped to stabilize and broaden the scope of operations of the banks. Consequently, as they reengineered, they reaped the ripple effects of quality service delivery; increased business strength and reliability and broadened scope of operations.

The findings in numbers 1 and 2 of the costs analysis agree with the position of Counter (2002), Goldratt (1985) and especially, Dubois (2002) which stated that "The most frequent and harsh critique against BPR concerns the strict focus on efficiency and technology and the disregard of people in the organization that is subjected to a reengineering initiative. Very often, the label BPR was used for major workforce reductions". As was the case in the Nigerian banks when they re-engineered, many employees were laid off and many banking processes were automated; leading to hi-tech operations and capital investments in the acquisition of the needed computers and equipment. With time, the effect of this exercise was increased training and maintenance cost; viz-a-viz increased marketing and advertising cost. This perhaps, is the explanation of the findings in numbers 3 - 6.

Again, the result of the hypothesis testing agrees with previous findings of Hammer and Champy (1993), Davenport (1990), Counter (2004), Pryor and Pryor (1994) and Weicher et al (1998).

Conclusion and Recommendations

From our findings, the benefit of BPR are: increased effectiveness; increased efficiency; reduction in overhead cost; making jobs more meaningful; increased flexibility and adaptability to changes in the environment; business growth; quality service delivery; increased business strength and reliability; and broadened scope of operation. While the associated costs of BPR include: cost of laying off employees; cost of acquiring new equipment; increased marketing cost; increased advertising cost; increased training cost; and increased maintenance cost.

With a total weight of 359 scores against 247 scores as shown in Tables 1 and 2 above, the benefits of BPR in the banks outweigh the costs; showing that it is a worthwhile exercise. More so, the hypothesis testing showed that there is a significant difference between the benefits and costs of BPR in Nigerian banks.

In spite of the associated costs of BPR in the banks, this paper concludes that it is a worthwhile exercise since the findings show that the benefits outweigh the costs. What needs to be heeded are the precautions contained in the guidelines for its implementation.

BPR should never be carried out merely for the sake of it, rather it should be preceded by strategic planning, which addresses leveraging IT as a competitive tool; such an exercise should place the customer at the center of the reengineering effort. This can be achieved by concentrating on reengineering fragmented processes that impact negatively on customer service; for a successful BPR, there must be recourse to corporate culture while constant communication and feedback should not be ignored; to achieve maximum result from a BPR, it must be effort of the organization members and not that driven by a group of outside consultants or sections of the organization; a specific time frame between three to six months should be designated for any BPR project so that the organization is not thrown into a state of "limbo" although this may vary from organization to organization.

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