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Business Process Reengineering: A Theoretical Analysis of Key Enablers and Implementation Strategies

Doreen Ninsiima Kasozi

Quality Compliance Expert (Consultant), Kenya

Abstract:

As organizations continue to grow, while businesses transform and global market dynamics continue to rapidly change, there is a need for deliberate focus and attention to Business Process Reengineering. Business Process Reengineering augments process management and infrastructure to improve operational proficiency while reinforcing organizational systems and governance structures. This paper presents the key enablers of Business Process Reengineering and Fisher's four-step implementation strategy from a theoretical view. Based on extensive analysis of current literature, a conceptual outlook of a Reengineered Business Process is deliberated with respect to its influence and contribution to business performance and operational excellence in organizations. In addition, the study contributes to existing Business Process Reengineering literature and research and provides organizations with practical step by step processes to guide implementation of their BPR initiatives and projects.

Keywords: *Business process reengineering, business transformation, business system diamond, enterprise resource planning, operational excellence, sound management processes*

1. Introduction

In an attempt to improve productivity, performance and overall competitiveness in both domestic and global markets, organizations have realized that there is a need to reform their business processes and practices and become more customer focused. Consequently, these organizations have recognized the need for organizational change, but do not necessarily know how and what to change, to achieve improvements in productivity and performance (Love & Gunasekaran, 1997). Furthermore, it is quite challenging to find out whether a change of business processes positively affects business goals or not, if there are problems in the changing, what the reasons of the problems are, what solutions exist for the problems and which solutions should be selected. Big data analytics along with a goal-orientation which helps find out insights from a large volume of data in a goal concept opens up a new way for an effective business process reengineering (Park, Chung, Khan, & Park, 2017). Process reengineering has been described as the elixir for achieving dramatic improvements in production time and cost. Process reengineering is not about fixing current processes, but rebuilding them, with the aim of process improvement (Love & Gunasekaran, 1997).

One of the critical challenges of business world is to manage change. This rapid rate of change has forced many companies to radically improve its business processes or better known as Business Process Reengineering (Razalli, Hasnan, & Noordin, 2017). Revolutionary business change entails a fundamental rethinking and reengineering of all aspects of a company and its activities (Fisher, 1996; Hammer & Champy, 2006). Many organizations have successfully implemented process improvement programs driven by reengineering. Reengineering is the radical redesign of work processes, organizational structure, information technology, job content and flow, to achieve quantum improvements in customer-valued productivity (Richman & Koontz, 1993). According to Fisher (1996), performance evaluation is one of the key elements that are essential for reengineering a firm's business processes. After the identification of appropriate benchmarks, management must undertake appropriate reengineering methods (Alluri, 2000). The business process reengineering (BPR) approach is unique because it usually sets top management's sights on five to tenfold improvements. This requires a fundamental rethinking of the work process and literally redesigning every step associated with producing the desired output (Richman & Koontz, 1993). Over the last five years or so, many companies have significantly improved their performance by using a management technique commonly referred to as business process reengineering.

Business Process Reengineering (BPR) is used in different ways by different companies. On the one hand it is used to improve single existing processes, for example by streamlining a process, while on the other hand it is used to revolutionize the way in which a company operates. In spite of its immense benefits, unfortunately, BPR implementations have not been as successful as organizations would like. BPR implementations fail 50 percent to 70 percent of the time (Hammer and Champy, 1993). A

failed implementation is one that fails completely or does not yield expected increases in productivity and quality (Hammer and Champy, 1993).

Because of the high failure rate, it requires much caution and preparation for organizations to implement a BPR program. Initially, BPR can generate tremendous promise and excitement. However, over time, BPR can lose momentum as managers deal with the reality of limited organizational resources, slow return on investment, and reduced employee enthusiasm (Harkness et al., 1996). When you use business process reengineering, you have to decide how far you want to go in changing the way in which you do things. Business process reengineering is comprised of two essential activities. First, you define the operation of your company in terms of a formal system of business processes. These processes represent the flow of work through your company, across the boundaries of departments and sections, rather than up and down the management chain. Second, you analyze and critically review the operation of your processes to identify opportunities for improvement. Reviewing includes auditing, measuring process performance, and benchmarking. Such reviews often show that you can significantly improve your company's performance by redesigning or reengineering the way in which your processes operate (Fisher, 1996).

2. Literature and Related Works

A variety of definitions of BPR have been proposed in the literature (Klein, 1993; Davenport and Short, 1990; Manganelli and Klein, 1994; Ovans, 1995), but the one cited as being normative comes from Michael Hammer and James Champy (1993) and was presented in their seminal book *Reengineering the Corporation: A Manifesto for Business Revolution*. They define (Hammer and Champy, 1993, p. 32) BPR as "fundamentally rethinking the radical re-design of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service and speed." The principle ideas in reengineering are similar to those in process orientation. The authors especially stress complete rethinking and redesigning of business processes, starting at 'square one' rather than attempting to optimize existing processes. "At the heart of reengineering is the heart of discontinuous thinking, - of recognizing and breaking away from the outdated rules and fundamental assumptions that underlie these operations. Hammer emphasizes that unless these rules change, this process will be like merely rearranging the deck chairs on the titanic. Hence a breakthrough cannot be achieved in performance by cutting fat or automating existing processes. Rather there is need to challenge old assumptions and shed the old rules that made the business under perform in the first place (Hammer 1990, p. 108) Reengineering can greatly help organizations achieve new heights of success by dramatically changing existing business processes. To do so, they must take advantage of new advances in information and communication technologies to achieve significant improvements in productivity (Wells, 2000; Hammer & Champy, 2006). While key benefits of BPR were discussed in the literature, some studies showed the complexity of implementing BPR projects within the organization. As further seen from literature, risks involved in reengineering are high and all the processes need not be reengineered (Mohapatra, Choudhury, Ganesh, 2017). A study by Grover, Jeong, Kettinger and Teng (2015) showed that as more organizations undertake Business Process Reengineering (BPR), issues in implementing BPR projects become a major concern. Their field research explored the problems of implementing reengineering projects and how the severity of these problems related to BPR project success. Analysis of the results demonstrated the central importance of change management in the BPR implementation success. Resolutions of problems in other areas such as technological competence and project planning were also determined to be necessary, but not sufficient, conditions for reengineering success. Further, problems that were more directly related to the conduct of a project such as process delineation, project management, and tactical planning were perceived as less difficult, yet highly related to project success. The situation was also true for human resource problems such as training personnel for the redesigned process. Their findings suggested that reengineering project implementation was complex, involving many factors. And therefore in order to succeed, it is essential that change is managed and that balanced attention is paid to all identified factors, including those that are more contextual (for example; management support and technological competence), as well as factors that pertain directly to the conduct of the project (including; project management and process delineation). Summarily, this research emphasized the importance of addressing BPR implementation within the broader context of organizational change in a complex sociotechnical environment.

3. Key Enablers of Business Process Reengineering

Increases in global competition, customer requirements, and new information technologies together with macro-level forces (such as deregulation and electronic markets) are enablers that are prompting organizations to consider BPR initiatives. Although BPR continues to be an important item on management's agenda, Holland and Kumar (1995) report that 60 to 80 percent of reengineering programs have been unsuccessful, with Hammer and Champy (1993) claiming that 70 percent of companies fail to achieve any benefits from their reengineering efforts. A possible explanation for this comes from Broadbent, Weill, and St. Clair (1999), who empirically confirm that business process design is facilitated through a comprehensive IT infrastructure. In trying to avoid BPR failure, Guimaraes (1997) goes some way to presenting critical success factors for BPR, together with those issues that are regarded as factors important in securing BPR project success. In viewing BPR as a strategy that requires enablers for its success, it is important not to consider BPR as a means to an end but, rather, as a strategy that requires resources, with the strategy facilitating a desirable business result (Irani, Hlupic, Giaglis, 2000). Accordingly, the key enablers of reengineering are described below.

Leadership support and Human involvement: Committed strong leadership and sound management processes ensure that Business Process Reengineering (BPR) efforts are implemented in the most effective manner (Bashein, Markus, and Riley, 1994). The most noticeable managerial practices that directly influence the success of BPR implementation are top management support and commitment, championship and sponsorship, and effective management of risks. In reengineering, all people must be openly and actively involved (Jackson, 1997; Bashein et al., 1994; Hinterhuber, 1995) and should be consulted at all stages on the process and its leaders. This includes line managers (Harrison and Pratt, 1993), process owners (Furey, 1993), those involved in IT and human resources (Bashein, Markus & Riley, 1994), and workers (Janson, 1992). The culture of experimentation is an essential part of a successfully re-engineered organization and, therefore, people involved or affected by BPR must be prepared to endure errors and mistakes while re-engineering is taking place.

Effective communication is considered a major key to successful BPR-related change efforts (Davenport, 1993; Jackson, 1997; Zairi and Sinclair, 1995; Hammer and Stanton, 1995). Communication is needed throughout the change process at all levels and for all audiences (Davenport, 1993a), even with those not involved directly in the re-engineering project (Dixon et al., 1994). Effective communication between stakeholders inside and outside the organization is necessary to market a BPR programme (Talwar, 1993) and to ensure patience and understanding of the structural and cultural changes needed (Berrington et al., 1995) as well as the organization's competitive situation (Cooper and Markus, 1995). Communication should take place frequently (Davenport, 1993, Carr, 1993) and in both directions between those in charge of the change initiatives and those affected by them (Davenport, 1993a; Jackson, 1997; Talwar, 1993). Communication should be open, honest, and clear (Janson, 1992), especially when discussing sensitive issues related to change such as personnel reductions (Davenport, 1993).

Effective Planning: Proper planning for reengineering (Jackson, 1997) with adequate time frames (Zairi and Sinclair, 1995) are key factors in delivering a successful BPR project on time. Effective use of project management techniques (CSC Index, 1994) and managing people-related issues (Talwar, 1993) have also a crucial role in smoothing the flow of the process redesign stages. A comprehensive piloting of the new design (Jackson, 1997; Hammer and Stanton, 1995), and learning from errors (Jackson, 1997) are particularly important for tuning a BPR implementation process to the most successful way. Measurement of project progress should also be maintained continually throughout a BPR project (Is Re-engineering A Fad?, 1996). Enterprise resource planning (ERP) is a vital aspect of operations management which involves planning based on a consideration of interrelationships among the myriad processes within a firm, including ensuring consistent associated data. This process is instrumental in facilitating cross-functional decision making by the overall organizational and operational leadership (Silver, 2004, p.275).

Information technology is seen as a key enabler for successful reengineering. Processes can be fundamentally altered with a radical use of modern technology. IBM, for instance, reengineered most of its processes in the mid-1990s, but has just embarked on it again, this time to "Web-enable" these same processes for electronic commerce. Business Week recognized the relationship between the Internet and reengineering in its first special report on electronic business: It dubbed the implementation of e-commerce "e-engineering." The Internet demands new ways of working, and reengineering is the tool that can create them (Hammer & Champy, 2006). Adequate understanding and identification of enabling technologies for redesigning business processes (Barrett, 1994; Guha et al., 1993), proper selection of IT platforms (Guha et al., 1993), effective overall system architecture (Jackson, 1997), adaptable and flexible IT infrastructure (Technology Talks to Business with EAS, 1997), and proper installation of IT components (Guha et al., 1993) all contribute to building an effective IT infrastructure for business processes. Business Process Reengineering (BPR) provides for complete redesign of business processes to achieve operational excellence, high quality outputs, products and services that satisfy the customers, while ultimately maximizing efficiency (Silver, 2004, p.274). BPR has great potential for increasing productivity through reduced process time and cost, improved quality, and greater customer satisfaction, but it often requires a fundamental organizational change. As a result, the implementation process is complex, and needs to be checked against several success/failure factors to ensure successful implementation, as well as to avoid implementation pitfalls (Majed Al-Mashari, 1999). Before implementing business processes reengineering, senior leadership approval and stakeholder buy-in to the entire process should be sought at all organizational levels. Developing and documenting a formal system of business processes or management procedures requires the long-term support and cooperation of everyone within the organization.

Managers must show their commitment by giving proper backing to the idea. This commitment is vital to the success of business process reengineering projects. From the outset, it is important to have an action plan. Planning involves considering project costs and timescale, the need to seek outside advice, the demands that will be placed on staff while processes are being identified and documented, and who is to be given overall responsibility for the day-to-day running of the project (Fisher, 1996).

Much of the literature on BPR deals with case studies, where the reader is able to extrapolate issues pertaining to reengineering success and (not-to-often) the reported failures of BPR initiatives. Also, much literature takes the form of conceptual frameworks and models; (Irani, Z., Hlupic, V., Giaglis G, 2000) however, a clear gap centers around the implementation process of BPR in view of business performance and operational excellence in organizations. In addressing this gap, this theoretical study analysis will add to the available body of literature.

4. Fisher's Four Step Implementation Method for Business Reengineering

Business-process reengineering is a vehicle with which to improve performance through radically redesigning strategic, tactical, and operational processes, together with the procedures, policies, structures, and infrastructure that supports them. Business-process reengineering is cited as offering organizations a whole host of benefits (strategic, tactical, and operational) with differing natures (financial, nonfinancial, and intangible). Such benefits include improved quality of products, processes, flexibility gains, reduced costs, and improved efficiency and effectiveness. Accordingly, Fisher (1996) describes a four tier step approach for business process reengineering.

- Step 1: Identify the organization's business processes and conduct an extensive assessment to ensure the processes are compatible with the Organization's business objectives. To accomplish this, there is need to take a bird's-eye view of how the organization works, looking for the 'natural breaks' or interfaces that separate and define the work of each business process, listing all those business processes necessary to run the organization, and those which are decisive for the organization's future.
- Step 2: Analyze each process in detail to establish that each one operates in a controlled way and meets the necessary process requirements. After identifying the organization's business processes, the next steps are to understand thoroughly how each process works, and to ensure each process operates in a controlled way. Processes are best analyzed and flowcharted by the people who operate them, perhaps assisted by an expert facilitator, or the project leader, who is familiar with the techniques of analyzing and flowcharting processes but who is not necessarily familiar with the process in question. When processes are particularly complex, or need to be radically redesigned, existing process operators may not appreciate the alternatives offered, for example, by IT innovations or different forms of company organization.
- Step 3: Document the organization's system of business processes and ensure the organization as a whole works to them. The complete set of documentation for a system of business processes forms a hierarchy that usually has three or four tiers; Tier 1 - business policies: for example on quality, environment, and health and safety; Tier 2 - the general written procedures; Tier 3 - the specific written procedures and/ or work instructions; Tier 4 - the day-to-day working documents (such as forms, data sheets, quality plans, contracts, customer files, drawings, reports, specifications, handbooks, statutory regulations, and standards)
- Step 4: Review and improve the performance of business processes through measurement and feedback, and ultimately by benchmarking and reengineering. Developing and improving processes should be the responsibility of process owners. Process owners should hold budgets for such improvement work. The overall performance of the organization's system of processes should be reviewed by senior managers, while keeping Business Process Reengineering in Perspective. Having identified potential improvements to the existing process and documented innovative alternative approaches, the organization can then undertake deliberate efforts to develop a new reengineered process design and implement it. Successful reengineering efforts budget the majority of the organization's time, which includes pilot trials of the new approach, continued monitoring of results, and extensive retraining of employees (Furey, 1993).

5. Contextual Outlook of a Reengineered Process

Hammer and Champy (2006) repeatedly made the point that reengineering entails the radical redesign of a company's business processes. But while reengineering does start with process redesign, it doesn't end there. Fundamental changes in business processes have implications for many other parts and aspects of an organization—every part of it, in fact. When a process is reengineered, jobs evolve from narrow and task-oriented to multidimensional. People who once did as they were instructed now make choices and decisions on their own instead. Assembly-line work disappears. Functional departments lose their reasons for being. Managers stop acting like supervisors and behave more like coaches. Workers focus more on the customers' needs and less on their bosses'. Attitudes and values change in response to new incentives. Practically every aspect of the organization is transformed, often beyond recognition. Reengineered processes exhibit a more balanced approach. Jobs change, as well as the people needed to fill them. Organizational structures change from hierarchical to flat, People empowerment from Teams of one person or several performing process-oriented works become inevitably self-directing. Executives change from scorekeepers to leaders. Focus of performance measures and compensation shifts from activity to results Worker, with work structures, reporting lines, career paths, the way people are measured and compensated, the roles of managers and executives, and even what goes on in workers' heads also expected to change. Generally, Reengineering affects all major aspects of a business; its processes, structures, values, management and measurement systems. These aspects form the four points of the Business System Diamond presented in figure 1 below.

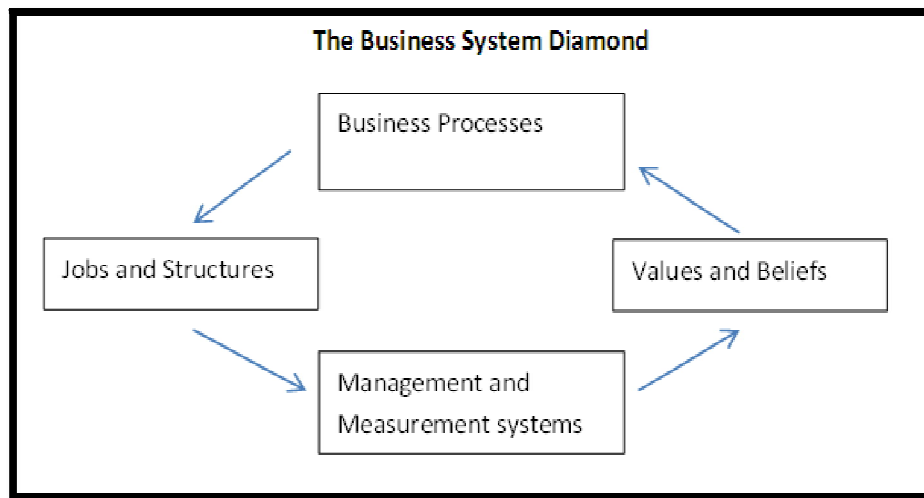


Figure 1

Source: Hammer & Champy, 2006

The linkages in figure 1 above are key. The top point of the business system diamond, processes, determines the second point, jobs and structures. The ways in which work is performed determine the nature of people's jobs and how the people who perform these jobs are grouped and organized. The fragmented processes found in traditional companies leads to narrowly specialized jobs and organizations based on functional departments. Integrated processes give rise to multidimensional jobs that are best organized into process teams. Likewise, people who perform multidimensional jobs and who are organized into teams must be recruited, evaluated, and paid by means of appropriate management systems. In other words, jobs and structures, themselves determined by the process designs, in turn lead to the third point on the diamond, the kind of management systems a company must have. The management systems—how people are paid, the measures by which their performance is evaluated, and so forth—are the primary shapers of employees' values and beliefs, the fourth point on the diamond. By values and beliefs, Harmer and Champy (2006) mean the issues and concerns that people in the organization think are important and to which they pay significant attention. Finally, the reigning values and beliefs in an organization must support the performance of its process designs. For example, an order fulfillment process that is designed to operate quickly and accurately will not do so unless the people performing it believe speed and accuracy are important. This brings back the top aspects of the diamond. Once again Hammer and Champy (2006) say that in reengineering, it is not sufficient to redesign processes alone. All four points on the business system diamond have to fit together or the company will be flawed and misshapen. The fact is that every company, even those with traditional organizations, has a business diamond. Reengineering can be thought of as replacing a diamond that has lost its luster and brilliance with a new one (Hammer & Champy, 2006).

6. Managerial Implications

Universally, the strategic significance of Business Process Reengineering (BPR) in steering business transformation and operational excellence has never been clearer. With the application of its key enablers, BPR has the potential to enhance organizational performance and efficiency through reduced processing time as well as cost, value-added quality, and superior consumer fulfillment. However, this habitually necessitates a vital organizational change. This calls for organization-wide stakeholder buy-in, senior leadership commitment and strategic re-alignment in view of the redesign process.

6.1. Originality/Value

Many articles have been written about BPR and its implementation, but there are very few that have utilized real-world, empirical data (Wells, 2000). This paper sought to contribute to existing BPR literature and research and provide organizations with practical examples and step by step processes to guide implementation of their BPR initiatives and projects.

6.2. Conclusion

Overall, the paper shows that BPR is a crucial proponent for any organization that plans to histrionically improve its business performance in the twenty-first century. It requires leadership commitment, stakeholder buy-in to the concept and deliberate planning for effective execution.

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