

Business Process Reengineering Analysis and Recommendations

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Introduction

The "jumping off" point for this paper is Reengineering the Corporation , by Michael Hammer and James Champy. The paper goes on to review the literature on BPR. It explores the principles and assumptions behind reengineering, looks for common factors behind its successes or failures, examines case studies, and presents alternatives to "classical" reengineering theory. The paper pays particular attention to the role of information technology in BPR. In conclusion, the paper offers some specific recommendations regarding reengineering.

Old Wine in New Bottles

The concept of reengineering traces its origins back to management theories developed as early as the nineteenth century. The purpose of reengineering is to "make all your processes the best-in-class." Frederick Taylor suggested in the 1880's that managers use process reengineering methods to discover the best processes for performing work, and that these processes be reengineered to optimize productivity. BPR echoes the classical belief that there is one best way to conduct tasks. In Taylor's time, technology did not allow large companies to design processes in a cross- functional or cross-departmental manner. Specialization was the state-of-the-art method to improve efficiency given the technology of the time. [17]

In the early 1900's, Henri Fayol originated the concept of reengineering: To conduct the undertaking toward its objectives by seeking to derive optimum advantage from all available resources. [17] Although the technological resources of our era have changed, the concept still holds. About the same time, another business engineer, Lyndall Urwick stated "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." [17] This admonition foreshadows the idea of worker empowerment which is central to reengineering.

Although Hammer and Champy are eager to declare that classical organization theory is obsolete, classical ideas such as division of labor have had an enduring power and applicability that reengineering has so far failed to demonstrate. BPR does not appear to qualify as a scientific theory, because, among other things, it is not duplicate and it has limited scope. The applicability of classical management theories, such as division of labor, were widely duplicable and portable. These ideas stimulated increases in productivity, output, and income that led to the creation of the middle class.

If BPR is not a theory, but a technique, Hammer and Champy are surprisingly vague about the details. This paper attempts to fill in the blanks. Despite their vagueness, Hammer and Champy are clear about who to blame when reengineering attempts fail; it is the fault of the individual company. To the steering committee, this sounds like a variation of blaming the victim.

Cyert and March, among others, point out that conflict is often a driving force in organizational behavior. BPR claims to stress teamwork, yet paradoxically, it must be "driven" by a leader who is prepared to be ruthless. One executive with BPR experience warns not to assume "you can simply issue directives from the center and expect it to happen." [4]

According to Thomas Davenport, "classical reengineering" repeats the same mistakes as the classical approach to management, by separating the design of work from its execution. Typically, a small reengineering team, often from outside the company, designs work for the many. The team is fueled by assumptions such as "There is one best way to organize work; I can easily understand how you do your work today; I can design your work better than you can; There is little about your work now that is worth saving; You will do your work the way I specify." [5] Davenport suggests that the engineering model/analogy that BPR is based upon is flawed, both in terms of process design and information technology. He proposes an "ethnographic" approach to process design and an "ecological" approach to information systems, called participative business makeovers which is discussed later in this paper.

IS BPR a Quick Fix?

BPR is often used by companies on the brink of disaster to cut costs and return to profitability. The danger is that during this process the company may slash its capacity for future growth. The example of "Star Vault, Inc.", a mid-sized entertainment company illustrates this conundrum [1]. After BPR, Star Vault returned to short-term profitability by sacrificing its internal production capability to create new products.

Senior management soon discovered that the company's library was becoming overexposed and competition for the most attractive product acquisitions more intense. Star Vault was forced to reevaluate its strategic direction. It opted to focus on niche markets. "Instead of simply improving the processes, the company eliminated non-value-added expenses, and evaluated which organizational elements were relevant to the strategy... As a result, the company now has the opportunity to sustain and increase its market share." [1]

To reap lasting benefits, companies must be willing to examine how strategy and reengineering complement each other -- by learning to quantify strategy (in terms of cost, milestones, timetables); by accepting ownership of the strategy throughout the organization; by assessing the organizations current capabilities and processes realistically; and by linking strategy to the budgeting process. Otherwise BPR is only a short term efficiency exercise. [1]

One of the hazards of BPR is that the company becomes so wrapped up in "fighting its own demons" that it fails to keep up with its competitors in offering new products or services. While American Express tackled a comprehensive reengineering of the credit card business, MasterCard and Visa introduced a new product -- the corporate procurement card. American Express lagged a full year behind before offering its customers the same service. [3] Another writer urges consultants not to present BPR as a quick fix program since it "may help you save money tomorrow but will leave you in a worse position next month or next year." [16]

The Price of Experience

Why are so many companies still eager to experiment with reengineering, even when they have experienced previous failures themselves? Companies such as American Express and Amoco were able to learn from earlier reengineering failures, and succeed on later attempts. It seems that "experience, more than the possession of the right approach or methodology, is the key to reengineering triumph." [3] This acknowledgement may help explain the increasing interest in reengineering, despite the high failure rate.

Wheatley, on the other hand, describes the appeal of reengineering as a sign of "collective desperation." She notes "when a star is in its death stage, about to collapse on itself, it burns at its brightest, with tremendous energy and fury.

Reengineering is the supernova of our old approaches to organizational change, the last gasp of efforts that have consistently failed." [2]

The Role of the Leader and the Manager

Many articles point that BPR must have the full support of top management to succeed. If resistance is encountered, the leader must be willing to "drive" change, even to the point of ruthlessness. One article exhorts the leader to emulate a private detective -- such as Philip Marlowe -- who adheres to the following "heroic" qualities; Relentless adherence to what is right; Courage -- moral as well as physical; Recognition that surface appearance is often an illusion; A dogged determination to get at the deeper truth. [10] Managers in a company undergoing reorganization must work to quell the fears of employees and resistance to change (despite the fact that they may have their own apprehensions.)

According to one executive with BPR experience, "Once the [reengineering] plan is in place, you've got to pull out the stops and execute it. You cannot live in limbo between what you used to do and what you're going to do." Otherwise, the dramatic results are sacrificed, people lose their focus, and "reengineering slips into process improvement." [4] Employees may be enthusiastic about reengineering during the initial phases if they view it as a "win- win" situation. Some companies experience resistance in later stages when employees begin to harbor doubts about the impact of reengineering, and managers are forced to adopt a more "insistent" policy. [4]

CSC Index points to poverty of ambition as a reason why BPR projects fail. "Companies that just flirt with [reengineering] suffer the pains without the gains." [6] Reengineering advocates urge management to pull out all the stops and implement change on a grand scale. Managers in the organizations after reengineering are compared to coaches. They do not order; they guide. They do not direct the work of others; they coordinate, facilitate and empower.

Reengineering the Human Resource

Hammer and Champy recognize the importance of the human resource when they state "companies are not asset portfolios, but people working together to invent, sell and provide service." [9] However, they fail to demonstrate how to reengineer the human resource in conjunction with reengineering processes. Of the four cases presented in Reengineering the Corporation, only the case of Capital Holding addresses this area. Capital Holding performed a "cultural audit" which revealed that the unwritten code of conduct encouraged information hoarding and barely acknowledged the customer. In order to combat these tendencies, senior management provided a constant flow of information throughout the company regarding reengineering expectations and successes, and revised the performance appraisal system to emphasize the new values of team work and cooperation.

Although Hammer and Champy provide a long list of why reengineering fails, nowhere do they include the prerequisite that no reengineering effort will succeed

without first reeducating and retraining the people who will ultimately work with the new process. According to Meg Wheatley, "If you're going to move information and responsibility down to the local level, then the key question is how can you be sure that people will behave appropriately? You need to make sure that everyone is playing by the same rule book." [2]

CSC Index identifies two principle obstacles to BPR are fear among employees that their jobs are endangered and that years of experience will account for nothing. To overcome these apprehensions, managers must constantly communicate their plans and expectations. [6]

Although companies which are seeking to reengineer may work on revamping the performance appraisal system to support new values, this can be problematic. When bonuses are linked to profits or even the performance of a team, this may lead to a situation where the individual is judged on factors beyond his or her control.

Human Reengineering Case Study: The Conquering Power of the Small

GTO Inc. is a small company which manufactures automatic gate openers based in Tallahassee, Florida. When the founder died suddenly, the company was in the type of dire straits that would appear to have made it an ideal candidate for reengineering: GTO was losing money on a monthly basis, it lacked a line of credit and suppliers shipped only on a COD basis. Employees were required to work 24 hour shifts to fill important orders and the salesmen were reduced to writing up minuscule orders to supplement their incomes. The new CEO, Chuck Mitchell, adopted "...a strategy made up of small gestures rather than sweeping moves." [11] These gestures consisted of creating an atmosphere of trust and optimism among GTO's harassed employees; by listening to and adopting their suggestions, improving their health and disability insurance, and when things started to turn around, increasing their pay and distributing bonuses from a profit sharing plan. The salesman were put on salary with with incentives. Acts such as fixing the leaky roof, allowing ten minute breaks, and keeping the coffee machine stocked convinced the employees that that Mitchell was "genuine." The following year, GTO witnessed a cultural and company turnaround. Net profits moved from being in the red to nearly \$500,000. This was accomplished by a 9% increase in gross sales along with a 33% decrease in total operating and administrative costs. Employee turnover decreased equally dramatically. As employees began to seek outside education and were promoted from within, the number of returned goods fell. [11]

GTO's dramatic turnaround was a result of many small steps which could be said to foster precisely the "culture of incrementalism" that Hammer and Champy warn against. The focus was on human resources rather than on processes.

BPR Places the Customer at the Center by Breaking Down Organizational Barriers

Service organizations can put their professed commitment to customer satisfaction into action by placing the customer at the center of the reengineering process. Service workers are often unable to satisfy the customer because they must follow strictly defined rules, and they lack the authority to make exceptions or the resources to complete a transaction.

Robert Janson points to three basic principle that provide the foundation for service organizations seeking to reengineer:

- Make the customer the starting point for change -- by identifying customer wants and creating the infrastructure to support these expectations
- Design work processes in light of organizational goals
- Restructure to support front-line performance. [12]

When IBM started reengineering in 1992, the guiding principle was to become more customer-centered. Twelve customer relationship processes were identified and used as a basis for the reengineering project. One example is "solutions delivery": a contract between IBM and the customer for a complete IT system, including hardware, software, technical support, consulting services and third party products. The redesigned process moved the responsibility for pricing to the case team, who used "pricing tool" software. This eliminated a nearly two month delay that formerly occurred when pricing was referred to IBM headquarters. [13]

Is Information Technology an Enabler or a Bottleneck?

According to a roundtable of executives with extensive BPR experience, although information technology plays a central role in reengineering, "the IS organization in many companies is unable to play." This ineffectualness may be due to the historic inability of IS to do "anything big quickly", the "breeding out" of risk-taking, or the lack of advanced technology groups. [4]

Another danger is that, since the IT group is not perceived as being part of the business process, they are excluded from the reengineering team. Aetna tried to combat this "disengagement" by presenting workshops on the clients business to the IT group. [4]

Senior management may be skeptical about the effectiveness of IT as a whole due to the "lackluster" performance of many information systems in the past decades. In fact, it can be argued that the huge investment in IT has had little impact on productivity. Although 85% of IT spending in the 1980's was in the service sector, productivity in this sector increased only 1.9%, while productivity in the manufacturing sector rose 44%. [15] Based on this record, it is not unreasonable to view IT as a disabler, which is never used to "challenge why things are done in a company, but instead justify the way they are done." Systems in the service sector have been used to generate more unneeded reports, speed up superfluous work steps, generate unnecessary information, encourage shoddy thinking and misdirect attention to spurious details. [15]

One (anonymous) company failed repeatedly to reengineer because it "spent a lot of time building castles in the air regarding process redesign without paying attention to information technology." [3]. On the other hand, Ontario Hydro found that the greatest improvement came when they gave the IT group "the tools, the information, and the authority" to implement change, rather than by core process reengineering. The IT group was able to implement client server applications relatively early -- because individuals took "ownership, responsibility and accountability without [the company] even asking for it." [4]

Most analysts view reengineering and information technology as irrevocably linked. Walmart, for example, would not have been able to reengineer the processes used to procure and distribute mass-market retail goods without IT. Ford was able to decrease its headcount in the procurement department by 75% by using IT in conjunction with BPR, in another well known example.

Despite studies that indicate over half of all reengineering efforts are initiated "because of a perceived information technology opportunity...the actual technological solution is far less important than educating employees to use IT as both a strategic initiative and as a tool in the reengineering process." [4]

Based on the above findings, some insist that when developing a reengineering strategy, the best companies "ignore information technology." Only after the strategy is complete should innovative IT applications be benchmarked, since innovative applications often "stem from a combination of breakthrough ideas and from modifying several best practices." [7]

IT can prove useful in the reengineering analysis and design process. Graphics software and CASE tools can produce process maps; spreadsheets and costing software allow for activity-based cost analysis; databases can track customer satisfaction and complaints; "blind" e-mail bulletin boards can be used to capture employee suggestions. In addition e-mail and groupware can facilitate communication and coordination across geographical and organizational barriers. [7]

During the implementation stage, companies should follow these basic rules

- Recognize that IT is only part of the solution: It allows managers to collect, store, analyze, and communicate and distribute information better.
- Cut and paste the IT tools needed.
- Bring in internal or external IT experts: their knowledge, skills, acumen, and experience are invaluable.
- After implementation, continually monitor IT performance and keep up with new IT developments. [7]

On the other hand, some companies have found it useful to design a technology strategy before reengineering. When Star Maker Inc., an entertainment/communications company experienced a downturn, the CIO of the company convinced senior management to make addressing the role of IT the first item on the agenda. Star Maker designed a plan to use technology to place the company in the forefront of the industry, with services such as electronic product catalogues, customer interface standards, sophisticated electronic data links, customer and market databases, and digital video. The new technology needed to drive growth was then paid for by the cost savings from BPR. [1]

Davenport proposes an "ecological" model when redesigning information systems. Up to the present, the dominant model of IT has been "that data streams can be designed architecturally and engineered...[This] approach involves detailed modeling of information requirements and flows, and their relation to business activities and processes." [5] The traditional approach runs into difficulties when confronting environments that are fluid, dynamic, or characterized by dissent. Davenport argues that the basis of IT redesign must be the individual who uses the information. Data turns into information when it is placed in a human, behavioral context.

"Like the more familiar form of ecology, [information ecology] involves establishing a context for analysis, an understanding of the interrelatedness of a number of different factors, the need for acute observation and description (instead of modeling and prediction), the valuing of diversity, and the recognition of continual flux and evolution." [5]

Wheatley also expresses misgivings about the dominant scientific model for IT. She suggests that the natural sciences may be a more appropriate model. She describes organizations as "living systems" which, in order to be healthy, need "access to its own intelligence ... where conditions support the use of that intelligence." She points to the example of the U.S. Army, which is "intent on moving information everywhere in their organizations without knowing ahead of time who will need what." [2]

The "democratization" of IT from the mainframe to the PC is "breaking down the communications barriers between corporate functions, suppliers, and even customers." [7] Hammer and Champy call this the "disruptive" power of IT. This ability for information to be at many places at the same time -- which allows companies to reap the benefits of both centralization and decentralization -- is at the heart of BPR.

Alternatives to BPR

Reengineering works with existing business practices. This "impairs the entire reengineering process, as it stifles innovation in finding new ways to compete." BPR falls short when dealing with new products or services, since "any strategic objectives achieved are simply the by-product of improved productivity." [15] Strategic reengineering addresses this shortcoming by focusing on designing the organization to compete. This is accomplished by undertaking strategic initiatives at the start of the reengineering process. These initiatives seek to provide understanding of the markets, competitors, and the position of the organization within the industry. Critical success factors required to compete are identified and prioritized. Only then, are individual business processes addressed. [15]

Participative business makeovers reject the "top-down" approach to reengineering in favor of a middle ground, where the managers and workers come together to redesign business processes. Davenport proposes that the BPR team be split into two parts, a design team made up of senior managers, and an execution team composed of people who will actually do the work. While Hammer and Champy specifically warn against spending too much time studying the current process, this method advocates an "ethnographic" approach where the designer studies and participates in the process to be redesigned. This provides a deeper understanding of the process and

demonstrates the team's commitment to the workers. The team must be willing to sell a new process as though it were a process, expect and tolerate modifications to the process, and change the reward system to motivate change. [5]

Critics of BPR argue that it is often used as a euphemism for "denominator reduction." One may view productivity as a function of revenue or sales divided by the number of people required to generate the revenue. BPR increases productivity by cutting costs but does nothing to increase the revenues or sales. BPR is often undertaken by firms "playing catch up" to avoid disaster, but it does nothing to "regenerate core strategies," which can lead to a real growth in revenues [9]. For example Britain's manufacturing output (the numerator) increased about ten percent between 1969 and 1991, while the number of employees (the denominator) was cut in half. Although productivity skyrocketed, Britain surrendered global market share. "One almost expected to pick up the Financial Times and find that Britain had finally matched Japan's manufacturing productivity -- and the last remaining person at work in British manufacturing was the most productive son of a gun on the planet." [1]

Other critics warn that although BPR may lead to a competitive advantage, it is destined to be very short-lived. When one company lowers its costs of doing business, other companies will immediately follow, and the competitive advantage is lost. One writer warns that the reason why reengineers are so dangerous is that, due to the obsession with bench-marking, "all firms in an industry start converging on a point of no difference and thus of no profit." [14]

During the past decades the U.S., along with the rest of the world, has had to reassess the idea of competitive advantage. The idea that competitive advantage lies in a nation's natural resources has been abandoned. BPR, if left unchecked, seems to offer the dismal prospect that competitive advantage lies in constant cost minimization. The steering committee agrees with Robert Reich and others who propose that competitive advantage for the next century lies in a nation's workforce and infrastructure of a nation, and the ability to create and deliver new products and services in the global marketplace.

Reengineering Recommendations

- BPR must be accompanied by strategic planning, which must address leveraging IT as a competitive tool.
- Place the customer at the center of the reengineering effort -- concentrate on reengineering fragmented processes that lead to delays or other negative impacts on customer service.
- BPR must be "owned" throughout the organization, not driven by a group of outside consultants.
- Case teams must be comprised of both managers as well as those who will actually do the work.
- The IT group should be an integral part of the reengineering team from the start.
- BPR must be sponsored by top executives, who are not about to leave or retire.

- BPR projects must have a timetable, ideally between three to six months, so that the organization is not in a state of "limbo".
- BPR must not ignore corporate culture and must emphasize constant communication and feedback.

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