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SUCCESSFULLY PERFORMING BPR

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Business Process Reengineering

Business Process Reengineering means not only *change* -- but *dramatic change*. What constitutes dramatic change is the overhaul of organizational structures, management systems, employee responsibilities and performance measurements, incentive systems, skills development, and the use of information technology. Business Process Reengineering, (BPR) can potentially impact every aspect of how we conduct business today. Change on this scale can cause results ranging from enviable success to complete failure.

Successful BPR *can* result in enormous reductions in cost or cycle time. It can also potentially create substantial improvements in quality, customer service, or other business objectives. The promise of BPR is not empty -- it can actually produce revolutionary improvements for business operations. Reengineering can help an aggressive company to stay on top, or transform an organization on the verge of bankruptcy into an effective competitor. The successes have spawned international interest, and major reengineering efforts are now being conducted around the world.

On the other hand, BPR projects can fail to meet the inherently high expectations of reengineering. Recent surveys estimate the percentage of BPR failures to be as high as 70%. Some organizations have put forth extensive BPR efforts only to achieve marginal, or even negligible, benefits. Others have succeeded only in destroying the morale and momentum built up over the lifetime of the organization. These failures indicate that reengineering involves a great deal of risk. Even so, many companies are willing to take that risk because the rewards can be astounding.

Many unsuccessful BPR attempts may have been due to the confusion surrounding BPR, and how it should be performed. Organizations were well aware that changes needed to be made, but did not know which areas to change or how to change them. As a result, process reengineering is a management concept that has been formed by trial and error -- or in other words practical experience. As more and more businesses reengineer their processes, knowledge of what caused the successes or failures is becoming apparent.

The Emergence of BPR

In 1990 and again in 1993, some definitive works were put forth by Dr. Michael Hammer, James Champy, and Thomas Davenport. Hammer, named by *Business Week* as one of the four preeminent management gurus of the 1990s, together with Champy, chairman of CSC Index, Inc., gathered information about organizations thriving in their respective industries, along with assorted management consulting experiences. They were asking the questions of, "What worked and why?" along with "What didn't work and why not?" They discovered that most of the companies that had succeeded in changing their processes had used a similar set of tools and tactics. They called this set of procedures *Business Reengineering*.

> *"Business Reengineering is 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."*
>
> *-- Dr. Michael Hammer*

Thomas Davenport also performed research in this area, asking similar questions, through his work at Ernst & Young's Center for Information Technology and Strategy. By examining companies that were

redesigning processes, he gathered information on methods and practices which led to the successful implementation of what he called *Process Innovation*.

Although slightly different, both Business Reengineering and Process Innovation address the concept of redesigning how businesses perform strategic processes. In fact, both approaches shared a number of *core* activities. Because processes were at the heart of these management philosophies, the term Business *Process* Reengineering, or BPR, was adopted to describe these efforts. Since then, a myriad of books, articles, seminars, workshops, and computer tools have been developed by academicians, management consultants, and software developers to help organizations actually perform BPR.

Today, many organizations have acquired extensive experience in performing BPR. Many of these experts are still not in agreement on *every* activity necessary for performing BPR; yet, the core activities have remained stable during the continuous debate. The disagreements may be, in part, due to the uniqueness of each organization. Because organizations differ, the activities necessary to successfully perform BPR may also differ.

This white paper details the activities identified by experts to be *necessary for success* in performing BPR. The methods commonly accepted by most BPR experts as the *core* of successful BPR are illustrated. In addition, optional activities proposed by a variety of management consulting firms who have had success assisting their clients with BPR are also included. These methods, procedures, and tasks are identified to help organizations decide how they should perform BPR to meet the unique needs of their industry, people, and culture.

> *"Reengineering is new, and it has to be done."*
>
> *-- Peter F. Drucker*

Common steps when performing BPR:

Project Phases Required For Successful BPR:

Phase 1: Begin Organizational Change

Phase 2: Build the Reengineering Organization

Phase 3: Identify BPR Opportunities

Phase 4: Understand the Existing Process

Phase 5: Reengineer the Process

Phase 6: Blueprint the New Business System

Phase 7: Perform the Transformation

The tasks experts agree upon to successfully perform BPR can be grouped into seven steps, or phases. All successful BPR projects begin with the critical requirement of communication throughout the organization.

Phase 1: Begin Organizational Change

Activities:

- Assess the current state of the organization
- Explain the need for change
- Illustrate the desired state
- Create a communications campaign for change

The first step is to take a long, hard look at how the organization operates. The focus of this examination is on the operating procedures and the bottom-line results that are generated by them. The purpose of performing the analysis described below is to determine whether dramatic change by doing BPR is really necessary. It may be that only marginal change (the result of Continuous Process Improvements, Total Quality Management, and other similar programs) is needed -- which would expose the change initiative and the organization to much less risk.

Aspects of the business that need to be evaluated are: how things are currently done, what changes may be occurring, and what new circumstances exist in our business environment. Next, a look at how certain operating procedures within the organization have caused or will cause irreparable damage to the company's livelihood. What is the source of the organization's concern? Maybe the demands of the marketplace are shifting. Perhaps competitors have made significant advancements in products and services. Regardless of the reasons, it should be clear whether or not the organization, in its current state, is able to meet the needs of the markets it serves. The consequences of inaction should be identified and well understood. In most cases, these consequences are the loss of jobs by shutting down portions of the business, or perhaps the entire business. Finally, the proper future direction of the organization should be decided. The future "vision" of how the business must operate will serve as a clear and concise guide with measurable goals for employees to focus on.

If an organization wishes to change the way it operates, it must turn to its people to make it happen. People are the agents of change. Creating business plans and strategies are important, but they are only tools to guide the actions of people.

Because BPR can potentially require significant changes throughout an organization, it must begin with a communications campaign to educate all those who will be impacted by this change. Communication to all levels of personnel must remain active from start to finish to keep everyone involved and working towards a common goal. Without a common understanding about what is happening, confusion and uncertainty about the future can result in resistance strong enough to stop any reengineering effort. BPR is most effective when everyone understands the need for change, and works together to tear down old business systems and build new ones.

In order for change to be embraced, everyone must understand where the organization is today, why the organization needs to change, and where the organization needs to be in order to survive.

Phase 2: Build the Reengineering Organization

Activities:

- Establish a BPR organizational structure
- Establish the roles for performing BPR
- Choose the personnel who will reengineer

An infrastructure must be established to support reengineering efforts. Although this phase consists of only a few tasks, it has a tremendous impact on the success of a BPR endeavor. Who are the people that will be chartered to reengineer the business? What will their responsibilities be? Who will they report to? These are the questions that must be answered as the reengineering staff is gathered together to communicate, motivate, persuade, educate, destroy, create, rebuild, and implement.

One of the most important members of the reengineering effort is the *executive leader*. The leader must be a high-level executive who has the authority to make people listen, and the motivational power to make people follow. Without the commitment of substantial time and effort from executive-level management, most BPR projects cannot overcome the internal forces against them and will never reach implementation.

A *process owner* is responsible for a specific process and the reengineering effort focused on it. There should be a process owner for each high-level process being reengineered. Allocating the responsibility of a process to a specific person ensures that someone is in charge of how that process performs. Process owners are usually appointed by the executive leader.

The process owner convenes a *reengineering team* to actually reengineer his or her process. The team dedicated to the reengineering of a specific process should be made up of current insiders, who perform the current process and are aware of its strengths and weaknesses, along with outsiders who can provide objective input to spark creative ideas for redesign. The team should be small, usually five to ten people. Since they will be the ones who diagnose the existing process, and oversee the redesign and implementation, they should be credible in their respective areas. This qualification plays an important role in reducing the resistance by company personnel to the new process.

In some BPR initiatives it is helpful to institute a *steering committee.* Especially in larger or multiple reengineering projects, a steering committee can control the chaos by developing an overall reengineering strategy and monitoring its progress.

Lastly, a *reengineering specialist* can be an invaluable addition to the overall effort. A reengineering specialist can assist each of the reengineering teams by providing tools, techniques, and methods to help them with their reengineering tasks.

The impact of key members on a reengineering effort is often underestimated. A study of BPR projects published in the Harvard Business Review listed “assigning average performers” as one of the four ways redesign efforts tend to fail. The study showed companies were afraid of assigning their top performers because it could have impacted the performance of business units while reengineering was underway (*see table page 4*).

Phase 3: Identify BPR Opportunities

Activities:

- Identify the core/high-level processes
- Recognize potential change enablers
- Gather performance metrics within industry
- Gather performance metrics outside industry
- Select processes that should be reengineered
- Prioritize selected processes
- Evaluate pre-existing business strategies
- Consult with customers for their desires
- Determine customer's actual needs
- Formulate new process performance objectives
- Establish key process characteristics
- Identify potential barriers to implementation

In this phase, we begin to break away from normal patterns of identifying business opportunities. We start by dividing the entire organization into high-level processes rather than the usual vertical business areas such as marketing, production, finance, etc. These processes, usually less than a dozen, are the major or core processes of the organization. This activity is not a time consuming task, but it is difficult because it requires a shift in how we think of ourselves. One goal here is to identify the process boundaries (where the process begins and where it ends), which will help set the project scope for those processes that are to be reengineered.

In many cases, seeing the company from the customer's point of view can help identify what these high-level processes might be. For example, when Texas Instruments outlined their major processes for their semiconductor business, they came up with *only six processes* as follows: Strategy Development, Product Development, Customer Design and Support, Order Fulfillment, Manufacturing Capability Development, and Customer Communications. Each of these processes converts inputs into outputs.

At this point, it is helpful to begin thinking about potential *change levers* which may lead to dramatic changes in the organization's processes. Change levers usually will fall under one of three categories: the use of information, the use of information technology, and human factors. What new information is available and easily accessible to the organization? What new technologies have recently been introduced, or are on the horizon, that can change how businesses and customers interact? What new ways of structuring cross-functional work teams, compensation systems, and incentive methods have proven to be effective in improving operations within other organizations? In many instances, a modification in one of these areas requires changes in the other two areas to be the most effective.

Once the major processes have been defined, we need to decide which of our high-level processes needs to be reengineered. The most objective and accurate way is to compare the performance of our high-level processes, identified earlier, with the performance of our competitors as well as organizations outside of our industry. Even if we outperform our direct competition, there may be companies in other industries which may be much more effective in performing a similar task -- such as order fulfillment or product development. If we fulfill orders in six months, while a competitor fulfills orders in two weeks, we may consider this a

process that needs to be reengineered. What we are looking for here are overall, bottom-line performance metrics for the high-level processes that will help us select which of these processes to reengineer. Typically, organizations use the following three criteria: Dysfunction (which processes are the most ineffective), Importance (which processes have the greatest impact on our customers), and Feasibility (which processes are at the moment most susceptible to accomplish a successful redesign, or which ones are the "low hanging fruit" as many experts call them). Picking the "low hanging fruit" can show quick success and help build the much needed momentum and enthusiasm at all levels of the organization. Prioritizing the processes we have chosen to reengineer guides us in scheduling the order we will reengineer these processes.

Going after the highest priority process first, we assess the preexisting business strategy which governed its component tasks. Most likely, this existing business strategy is not focused on driving a process; therefore, we will have to define a new process strategy to reflect our new strategic goals for the process. Process customers are an important source of information to help set the new direction. We must consult with them to not only discover their desires, but also to find out what they *actually need* by watching what they do with our output. Process goals and objectives can be determined by combining customer needs with competitor benchmarks and "best of industry" practices (metrics on the best performers of a similar process in other industries). In addition to goals and objectives, we need to complete the conception of the new process by identifying key performance measures, key process characteristics, critical success factors, and potential barriers to implementation.

Phase 4: Understand the Existing Process

Five Keys to a Successful Redesign

1. Set an aggressive reengineering performance target. The target must span the entire business unit to ensure sufficient breadth.
2. Commit 20% to 50% of the chief executive's time to the project. The time commitment may begin at 20% and grow to 50% during the implementation stage.
3. Conduct a comprehensive review of customer needs, economic leverage points, and market trends.
4. Assign an additional senior executive or hire a reengineering expert to be responsible for the implementation. This person should spend 50% or more of his or her time on the project.
5. Conduct a comprehensive pilot of the new design. The pilot should test the design's overall impact, as well as the implementation process, while at the same time building enthusiasm for full implementation.

-- Gene Hall, Jim Rosenthal, and Judy Wade

Research into reengineering projects in more than 100 companies

Harvard Business Review

... And Four Ways to Fail

1. Assign average performers. companies often shy away from assigning their top performers to the redesign project for fear of impacting business unit performance during the redesign. This is a critical misjudgment.
2. Measure only the plan. Though most companies invest a lot of resources in estimating the effects of the redesign on cost, quality, and time before implementation, they rarely follow through with a comprehensive measurement system that can track the new process's performance as it is actually being rolled out.
3. Settle for the status quo. most companies have difficulty thinking outside their own skill level, organizational structures, or system constraints. Help from an outside expert can be crucial here. Moreover, companies that do come up with innovative approaches find them watered down by political infighting during the implementation stage.
4. Overlook communications. Companies always underestimate the level of communication that must occur during the implementation stage. It helps to assign a top-level manager to develop and implement an on-going communication program.

Activities:

- Understand why the current steps are performed
- Model the current process
- Understand how technology is currently used
- Understand how information is currently used
- Understand the current organizational structure
- Compare current process with the new objectives

Now that we know which process to reengineer, we need to take a look at *why* we currently perform the process the way we do. *Understand* is a key word here. We may not need to scrutinize every detail of how we are performing the process -- this effort has the potential to go on indefinitely, sometimes referred to as *analysis paralysis*, which can weaken the momentum needed to carry the project all the way to implementation. What we need to do is *understand* the underlying reasons why the existing process is carried out the way it is, so that we can question those assumptions during our reengineering sessions later on. When we have the new process objectives clearly defined (in *Phase 3*), we can measure our existing process in terms of the new objectives to see where we are and how far we have to go.

Modeling the current process is an important part of this phase. It not only helps us to better understand the existing process, but also helps with planning the migration from the old to the new process and executing the physical transformation of personnel, organizational structures, information requirements, and how technology is used. Information that should be included in the models are process inputs (such as task times, data requirements, resources, demand, etc.) and process outputs (such as data outputs, cost, throughput, cycle time, bottlenecks, etc.).

Understanding how and why the current processes use information is also important. Do staff members have access to essential information? Are some business areas wasting time and effort by creating duplicate information when it can be shared across organizational boundaries? Why is technology used to support some tasks and not others? How effective are the current interfaces? Are they easy to use, or are they counter-intuitive and thus inhibit the *effectiveness* of current tasks? In what way does the existing process take advantage of technology, and in what way has technology imposed artificial restrictions? We need to end up with an estimate of the current cost, robustness, and functional value of each technology and information systems currently being used.

Phase 5: Reengineer the Process

Activities:

- Ensure the diversity of the reengineering team
- Question current operating assumptions
- Brainstorm using change levers
- Brainstorm using BPR principles
- Evaluate the impact of new technologies
- Consider the perspectives of stakeholders
- Use customer value as the focal point

During this phase, the actual "reengineering" begins. We've moved from strategy and analysis phases into the redesign phase. The Reengineering Team that was formed to take part in the reengineering sessions should consist of designers and implementers, including people well versed in technology. These team members should come from both inside and outside the existing process.

The "inside" perspective may reveal information about the existing process that was not uncovered in Phase 4. Having people who will be the future *process owners*, or those responsible for the new process, is a critical component of the Team. Including the future owners will help to ensure that the reengineered process succeeds once it is implemented.

Equally important is the "outside" perspective of someone who will look at the process with a "fresh eye" and raise questions about operating assumptions that may not be obvious to the insider who might be too close to the process to see this.

Lastly, a technologist will provide insight as to how technology can be applied in new and innovative ways. In other words, the technologist will help to visualize how the process can be performed outside the boundaries of the current implementation. Including both outsiders and technologists on the team will help spark "out-of-box" thinking (thinking creatively above and beyond the current restrictions - the walls of the box).

Having developed a good understanding of how the existing processes work in the previous phase, it is now necessary to question the operating assumptions underlying the processes. Is there some (outdated) historical reason why a process has been performed a certain way? Are there customer requirements that dictate the steps in a process? Many times the operating assumptions can be thrown out and new ones developed. However, it is important to evaluate the impact the assumptions have outside the process in question.

The Reengineering Team is now tasked with brainstorming to create new process ideas. According to *Hammer*, brainstorming sessions are most successful when BPR principles are considered.

BPR Principles:

- Several jobs are combined into one;
- Workers make decisions;
- The steps in a process are performed in a natural order;
- Processes have multiple versions;
- Work is performed where it makes the most sense;
- Checks and controls are reduced;
- Reconciliation is minimized;
- A case manager provides a single point of contact;
- Hybrid centralized/decentralized operations are prevalent.

-- Dr. Michael Hammer

For example, hybrid centralized/decentralized operations encourage the formation of cross-functional workgroups. Ideally, the Team will identify those processes which should be centralized (because those processes are of value across the enterprise) as well as the processes which are of value to a specific group within the organization. A company might maintain a customer database on a centralized system, but it would provide data for a variety of processes throughout the organization such as sales, purchasing, or accounts receivables.

During the brainstorming sessions, the Reengineering Team must also consider new technologies. They will need to evaluate the impact of new technology on the process. Technologies that are often considered enablers of reengineering include: distributed computing platforms, client/sever architectures, workflow software, and application development tools.

The Reengineering Team should also search for uses of new information as well as new ways to use existing information. The reengineered process may enable the organization to collect data that was not gathered before, thereby bringing new knowledge into the process to help in decision making. Another benefit is the sharing of data across the organization to eliminate redundancies in data storage and increase internal communication.

The act of reengineering a process may require evaluation of the organizational model and the management strategy. A newly formed cross-functional workgroup will not fall neatly into a traditional hierarchical management structure. In addition, this workgroup will most likely require new measurement systems and reward programs. Changes in the infrastructure can also have an impact on corporate values and belief systems. It may be found at this stage that a new process simply will not fit into the current organization without a new process-oriented organizational structure.

Lastly, the Reengineering Team must consider all process stakeholders in the redesign of a process. Stakeholders are those whose actions impact the organization, and those who are impacted by the organization's actions. Stakeholders include both those internal to the process and those external to the

process. External stakeholders may not be concerned with how a process is performed but they are certainly concerned with the output of the process if they are the recipients.

Throughout the this phase, the Team must consider the impact on external processes that interact with the reengineered process. Does the implementation of a client/server architecture have an effect on another process? Will that process need to be reengineered also? Reengineering cannot be performed in a vacuum. However, it cannot be performed on all processes simultaneously either.

Phase 6: Blueprint the New Business System

Activities:

- Define the new flow of work
- Model the new process steps
- Model the new information requirements
- Document the new organizational structure
- Describe the new technology specifications
- Record the new personnel management systems
- Describe the new values and culture required

Blueprints are detailed plans required to build something in accordance with the designer's intentions. In BPR, blueprints must be created to identify all the necessary details of the newly reengineered business system and ensure it will be built as intended. This phase of the project takes the reengineered process developed in the previous phase, and provides the details necessary to actually implement it.

Blueprinting involves modeling the new process flow and the information required to support it. Just as we modeled the "as is" process and information requirements in *Phase 4*, we need to create "to be" models to illustrate how the workflow will be different. The information models, or data models, will indicate where the new process will use information that is shared across functional areas of the business.

The blueprints should also contain models of the redesigned organizational structure. Instead of the traditional organization chart, a different kind of chart is needed. This chart will show the new process flow along with the process team members, the process owners, the case managers, the process facilitators. The chart should also indicate parts of the organization which interact with the process personnel.

In addition, detailed technology specifications required to support the new process should be defined. Although minor changes, or fine tuning adjustments to the technical configuration will probably occur during the implementation phase, an initial physical description of the technologies used and their physical specifications should be recommended inthis phase, to set the stage for rapid application development.

Included in the blueprints should be the new management systems and values or belief systems of this redesigned area of the business. New management strategies, along with new performance measurements, compensation systems, and rewards programs should be outlined. The reengineered process may require a change in the values or belief systems of the company. The redesign may require an entirely different *culture*, or atmosphere, than what is prevalent in the organization today. It is critical to have these areas, and their responsibilities, defined as we go into the implementation phase.

Phase 7: Perform the Transformation

Activities:

- Develop a migration strategy
- Create a migration action plan
- Develop metrics for measuring performance during implementation
- Involve the impacted staff
- Implement in an iterative fashion
- Establish the new organizational structures
- Assess current skills and capabilities of workforce
- Map new tasks and skill requirements to staff
- Re-allocate workforce
- Develop a training curriculum
- Educate staff about the new process
- Educate the staff about new technology used
- Educate management on facilitation skills
- Decide how new technologies will be introduced
- Transition to the new technologies
- Incorporate process improvement mechanisms

Now we are ready to transform the organization. We have communicated, strategized, analyzed, reengineered, and blueprinted our ideas for the new process. This is where all of the previous efforts are combined into an actual business system -- something we can see and feel and use to enable our organization to meet the market demands of today and tomorrow.

The first step in transforming the organization is to develop a plan for migrating to the new process. We need a path to get from where the organization is today, to where the organization wants to be. Migration strategies include: a full cutover to the new process, a phased approach, a pilot project, or creating an entirely new business unit. An important point to consider is the integration of the new process with other processes. If only one process is reengineered, then it must interact with the other existing processes. If multiple processes are slated for reengineering, then the new process must not only integrate with existing processes, but also with the newly reengineered processes that will come on line in the near future; therefore, the implementation of the new process must be flexible enough to be easily modified later on.

Successful transformation depends on consciously managing behavioral as well as structural change, with both sensitivity to employee attitudes and perceptions, and a tough minded concern for results. BPR Implementation requires the reorganization, retraining, and retooling of business systems to support the reengineered process.

The new process will probably require a new organization, different in structure, skills, and culture. The new management structure should result in the *control* paradigm being changed to the *facilitation* paradigm. The new process team structure should result in the *managed* paradigm being changed to the *empowered* paradigm. Once the new structures are established, we should map tasks in the process to functional skill levels, and ultimately to workers.

Transforming the workforce will require an array of activities. It begins with an assessment of the current skills or capabilities of the workforce to include soft skills, operational skills, and technical skills. This inventory may require personal evaluations (including areas of interest), peer evaluations, and supervisor evaluations. Feedback should be provided to all personnel to ensure accuracy of current skills and interests for all staff. Armed with the new process skill requirements and a current skills inventory, the gaps can be assessed. Is the new process feasible with the current skill set? Which are the areas to focus on to enhance personnel skills to meet the requirements of the new process? An education curriculum needs to be established to get all employees educated on the business and, most important, on how their jobs relate to the customer.

An educational pyramid is an effective way to transfer knowledge of team building, self mastery, and subject matter knowledge. Systems training is essential to understanding the use of new information systems and how to take advantage of their capabilities. Process training may be needed to help employees think beyond a linear process to a more holistic interdependent process. Facilitation training for management is critical to develop their abilities to listen, allow mistakes, handle disputes among process experts, and transition to a *coach/facilitator* role. Education may be necessary for Total Quality Management (TQM), Statistical Process Control (SPC), or Continuous Process Improvement (CPI) if these mechanisms are designed into the new processes. Finally, a structured on-the-job training (OJT) program is instrumental in providing continuity of the new process during periods of personnel turnover or attrition.

As with any dramatic change, people will have personal difficulties, to varying degrees, with the paradigm shift that has taken place. Almost all new process implementations are surrounded by confusion, frustration, and sometimes panic. The best transition strategy is one that minimizes, as much as possible, the interference caused to the overall environment. Attempts should be made to keep the new process chaos to a controlled level, to maintain the focus of the reengineering team and the faith of the employees.

Transforming information systems to support the new process may involve retooling the hardware, software, and information needs for the new process. One approach to this transition could be a *controlled introduction*. The method would ensure that each part of the system is operational for a segment of the business before going on to the next module to implement. Although the risk may be low while the bugs in the new system are ironed out, it may be difficult to integrate the hybrid old/new systems in a step-wise manner. The *flash cut* approach is where the entire system is developed in parallel to the existing system, and a complete transition occurs all at once. This may put the organization at a higher risk if the systems do not function properly at first, but it is the more common approach due to the “all-or-nothing” nature of BPR. Most reengineered processes function in an entirely different manner than existing processes; thus, a step-wise introduction would, most likely, not be fully functional until all steps were introduced anyway. An important reason to justify the flash cut approach is that the reengineering benefits can be realized much sooner than with a controlled introduction.

Transitioning the information used to support the old process to become useful in the new process involves reducing some requirements while expanding others. Usually 30 to 40% of the old information can be discarded because it was administrative data needed to tie the old disjointed, linear processes together. On the other hand, the old systems may have poor data integrity, incorrect data, or insufficient data to support the new business needs. In these cases the data must be expanded to fill the gaps in the existing data and supply the new information requirements of the reengineered process. The information blueprints help manage the development of the new information systems.

The thoughts of management experts, the experiences of management consulting firms, and the research conducted by academicians have resulted in the methods and procedures outlined in this document. In order to establish the *dramatic change* we are seeking, we need to *dramatically* increase our chances of successful

BPR. The phases and activities described here must be considered, as a minimum, when attempting to *successfully* plan and perform Business Process Reengineering.

How Visible Can Help ...

Visible Systems Corporation is a consulting firm with a core competency of teaching organizations how to turn their business strategies into effective and efficient business systems. *Visible* focuses on transferring knowledge of how to build information models in a way that effectively communicates the needs of the business experts and the needs of the information technology specialists. The expertise of *Visible's* consultant force together with their proven tools and techniques can help companies initiating a BPR effort by transferring knowledge on how to build effective models which communicate their existing business systems, as well as the blueprints of the new workflow. In addition *Visible* can teach organizations how to use these models to not only drive the development of the new business systems, but also how to maximize utilization of the existing, legacy resources as they are integrated into the new business processes.

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About Visible

Visible Systems Corporation (Visible) is a world leader in software engineering solutions, tools, training, and consulting services. Founded in 1981, Visible has consistently pioneered products and methodologies that make the development of mission-critical applications more rigorous, maintainable, and reusable.

Visible's modeling and design tools are designed for software engineers, analysts, and designers interested in taking an architected approach to developing quality software solutions quickly.

Visible brings much greater value to customers by providing not only exceptional, proven software development products, but also skills transfer training, and on-site consulting. Visible helps software developers successfully support the changing needs of the enterprise, and helps the enterprise fully leverage its investment in information systems and technology.

Visible, a member of the Software Productivity Consortium, was founded to improve the effectiveness and efficiency of software development worldwide. Visible helps clients assimilate a rigorous and repeatable, disciplined, tool-supported Enterprise Engineering methodology for software component engineering through training, coaching, and mentoring.

- *Staff skills and productivity improve so that better software is developed faster.*
- *Standards are established and enforced.*
- *Metrics are identified and utilized.*
- *Appropriate tool sets are acquired and used.*
- *Software development quality becomes consistent and repeatable.*
- *Changing requirements are met rapidly and well.*
- *Maintenance costs (typically, 70% to 80% of software development budgets) are reduced significantly, often as much as 75%.*

Visible helps its clients become world-class software developers. With our assistance, clients improve processes and procedures until they are able to consistently develop quality information systems that exactly meet their own and their customers' critical information needs.