BUSINESS PROCESS REENGINEERING: A COMPARISON BETWEEN RAPID RE METHODOLOGY AND CLEAN SHEET OF PAPER

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ABSTRACT

In the Business Process Reengineering, the debated issues regarding the BPR implementation that is often highlighted is either using a Rapid Re Methodology that was proposed by Manganelli and Klein and Clean Sheet of Paper as advocated by Hammer and Champy. This paper looks into the similarities and differences in the two methods. Clean sheet of paper is a single visionary and rapid re methodology is a team activity. Rapid Re Methodology combines the clean sheet method to proper implementation of BPR effort.

RAPID RE METHODOLOGY

Rapid is defined as 'moving, acting or occurring with great speed; fast' (American Heritage Dictionary of the Engineering Language 2000. In addition, rapid is also defined as very swift or quick; moving with celerity; fast as a rapid motion (Webster's Unabridged Dictionary 1998. A methodology is a systematic or clearly defined way of accomplishing an end (which can be applied to science or art). It is also a system of order in thought or action (Manganelli and Klein (1993, pp 23).

A good methodology is just that – a guide – in developing complete and consistent answers, where questions are pertinent to the issue, rather than a rigid set of rules that must be followed exactly and in an inflexible order. A method task tailored to Business Process Reengineering refers to a systematic approach to conducting a business process-reengineering project. A good methodology in Business Process Reengineering provides a road map for reengineering which enables an organization to select the most appropriate destination and finding the best route.

Manganelli and Klein (1993) describe business process reengineering methodology as rapid reengineering or Rapid Re because it is designed to produce substantive results rapidly, usually between six months to one year. This methodology helps to realize those benefits that can be achieved in those time frames and then to set the stage for further improvement.

A Rapid Re method does not have a preconception of what business breakthrough are but provides a process to help the analyst find the radical change that will make the competitive difference. Rapid Re describes the change implementation plan or develops a set of considerations that will drive the subsequent plan and providing ample opportunity to think rather than to accept the obvious.

Rapid Re can help to answer the questions:
1. What needs to happen?
2. Why must it happen?
3. How will it occur?
4. What will it take?
5. When should it happen?
6. What results are expected?

Rapid Re does not assume any particular organization for the reengineering project team and is designe to be used with any or all of the engineering tools. In Rapid Re, the reengineering team is prompted to understand, think, and question such things as: i) corporate and process strategies, ii) customer expectations and perceptions, iii) value-added aspects of core processes, iv) potential for radical change, v) shortcomings of current processes and the potential for radical change, vi) vision of what can be if customer expectations are met and shortcomings eliminated, vii) opportunities for process combination and integration, viii) the contributing role of support processes, ix)use (leveraging) of technology to enable radical change, x) organizational restructuring and process management, xi) positioning and empowering the human resource, and xii) sub-visions and implementation alternatives. Rapid Re does not provide answers to any of these topics but rather a means or manner of thinking about it.

Rapid Re is a five stage, fifty-four-step methodology that enables organizations to achieve swift, substantive results by making radical changes in strategic value-added business processes. The five stages are Preparation, Identification, Vision, Solution, and Transformation. Each of the five stages addresses a logical part of the reengineering process and produces results that are used by subsequent stages. Included in the methodology is a set of integrated management techniques that are used to develop and analyze the information needed to identify opportunities and reengineer core business processes. The stages and methodology are subdivided as in Figure 1.

CLEAN SHEET OF PAPER

Clean Sheet of Paper as advocated by Hammer and Champy (1993) means disregarding all existing structures and procedures, ignores the historical nature of work processes and inventing completely new ways of accomplishing work. They define reengineering as about beginning again with a clean sheet of paper. It is about rejecting the conventional wisdom and received assumptions of the past.

Obeng and Crainer (1994) states that a common image associated with reengineering is that it takes a blank piece of paper and starts again. In reality, the process has to be more pragmatic and flexible. There are no blank pieces of paper, but involves revolution. The all-or-nothing approach distinguishes between business process reengineering and business process re-design. While the former is the clean slate, revolutionary approach, the latter is regarded as an incremental adjustment more in keeping with the quality management concept of continuous evolutionary change (ibid).

Heriyanto (2004) states that process reengineering requires innovation. Process redesign requires beginning with a clean sheet of paper. He claims that the creative nature of innovation makes it non-algorithmic and non-routine (ibid), while Khoong (1999) argues that a clean sheet approach would imply that there is no navigational guidance to challenge the evolving business, and in effect, the systems requirements posed. Not only we have heuristics, past experiences and folk memory, we already can distill a set of principles that can be used to guide through organizational change and systems development.

The clean-sheet approach has considerable appeals, which i) offers an unrestricted opportunity for creativity, ii) allegedly promotes new thoughts, iii) there seems to be a complete lack of corporate baggage, and iv) produces a vision of the future unimpeded by the way things happen now.
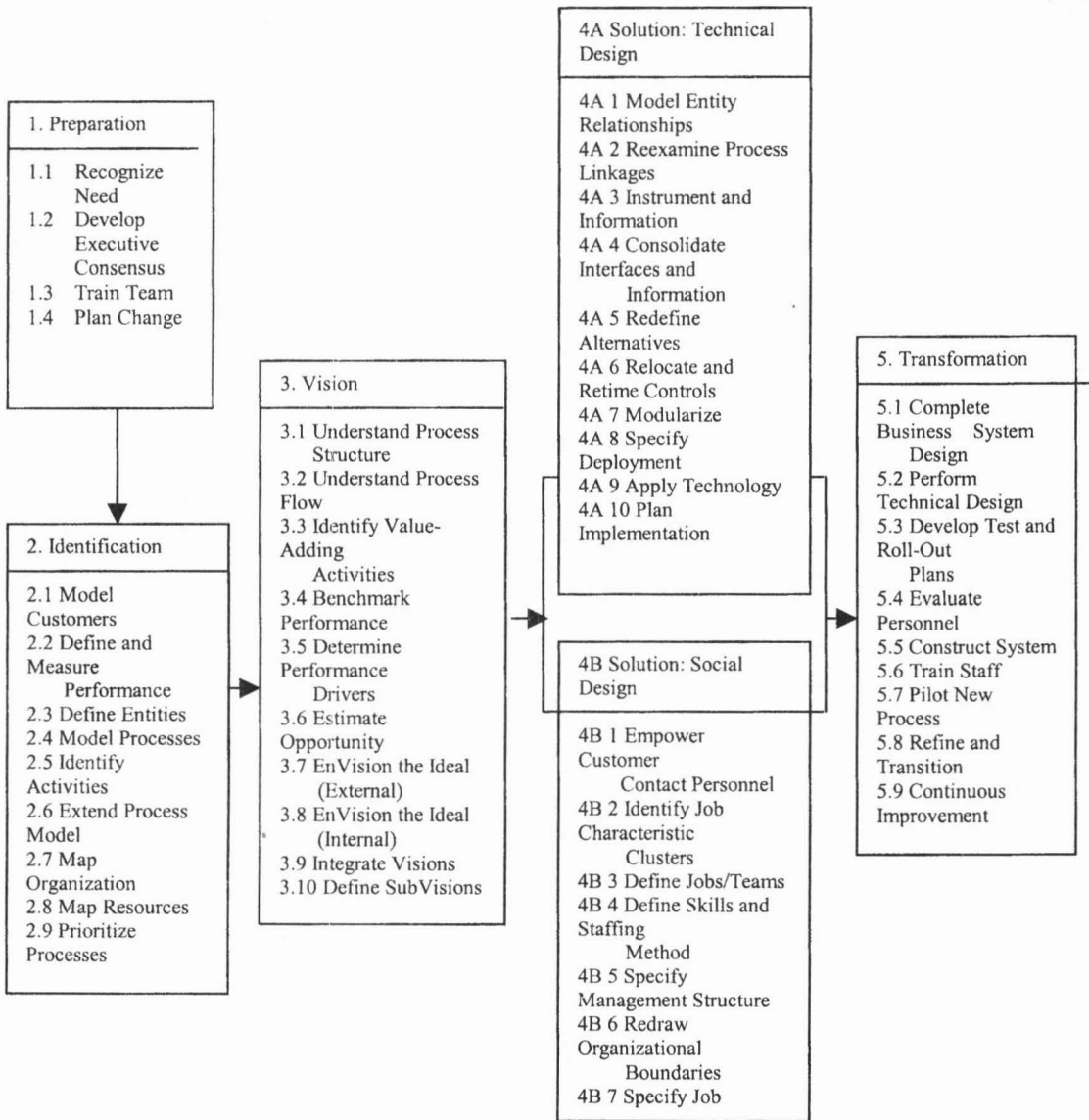
The clean-sheet approach is undeniably attractive, but its flaws are fatal. It represents an absence of constraints, a divorce from the outmoded thoughts of the past. Ideas are not developed in a vacuum. Thinking (or creativity) needs a frame of reference. We need to know what is being done, or has been done, in order to understand the way in which current practice fails.

Mozart, it is said, wrote his musical compositions only once, and on a clean sheet of paper, without any subsequent changes. Michangelo, contended that he was able to visualize a completed statue within the uncut block of marble (Manganelli and Klein (1993, pp 21)

COMPARISON BETWEEN RAPID RE METHODOLOGY
AND A CLEAN SHEET OF PAPER

The clean sheet is more properly matched to a single visionary. Rapid Re Methodology on the other hand, is a team activity. The clean sheet, by its very lack of discipline and process, is effectively uncontrolled and will lack ongoing validation of results, the opportunity for course corrections when needed.

Figure 1 : Stages and Methodologies of Rapid Reengineering

1. Preparation

1.1	Recognize Need
1.2	Develop Executive Consensus
1.3	Train Team
1.4	Plan Change

2. Identification

2.1 Model Customers
2.2 Define and Measure Performance
2.3 Define Entities
2.4 Model Processes
2.5 Identify Activities
2.6 Extend Process Model
2.7 Map Organization
2.8 Map Resources
2.9 Prioritize Processes

3. Vision

3.1 Understand Process Structure
3.2 Understand Process Flow
3.3 Identify Value-Adding Activities
3.4 Benchmark Performance
3.5 Determine Performance Drivers
3.6 Estimate Opportunity
3.7 EnVision the Ideal (External)
3.8 EnVision the Ideal (Internal)
3.9 Integrate Visions
3.10 Define SubVisions

4A Solution: Technical Design

4A 1 Model Entity Relationships
4A 2 Reexamine Process Linkages
4A 3 Instrument and Information
4A 4 Consolidate Interfaces and Information
4A 5 Redefine Alternatives
4A 6 Relocate and Retime Controls
4A 7 Modularize
4A 8 Specify Deployment
4A 9 Apply Technology
4A 10 Plan Implementation

4B Solution: Social Design

4B 1 Empower Customer Contact Personnel
4B 2 Identify Job Characteristic Clusters
4B 3 Define Jobs/Teams
4B 4 Define Skills and Staffing Method
4B 5 Specify Management Structure
4B 6 Redraw Organizational Boundaries
4B 7 Specify Job

5. Transformation

5.1 Complete Business System Design
5.2 Perform Technical Design
5.3 Develop Test and Roll-Out Plans
5.4 Evaluate Personnel
5.5 Construct System
5.6 Train Staff
5.7 Pilot New Process
5.8 Refine and Transition
5.9 Continuous Improvement

The limitations to clean sheet are severe that i) it is suitable only for small organizations and single processes, ii) it is nearly impossible to use as a team technique, iii) it is difficult to reproduce as it lacks process and discipline, iv) there is no checkpoint to ensure that original goals are being followed, v) there is insufficient detail for the required business case, and vi) there is no basis for a credible transition and implementation plan.

Rapid Re Methodology ensures i) a process that will guide in selecting the best path from its road map, ii) the development of the necessary information to proceed, iii) the provision of ample opportunity to think rather than to accept the obvious, and iv) the integration and use of a number of important techniques to develop and analyze the key information that allows identifying opportunities for the radical change of value-added business processes.

Examples of Rapid Re Methodology.

There are many examples of this methodology. Some of the examples are illustrated below.

Business Process Reengineering in a department: IBM Credit

The entire process from a request for financing to a quote letter consumed six days on average and sometimes two weeks. A new sophisticated computer system to support the deal structures is developed and the new turnaround becomes four hours.

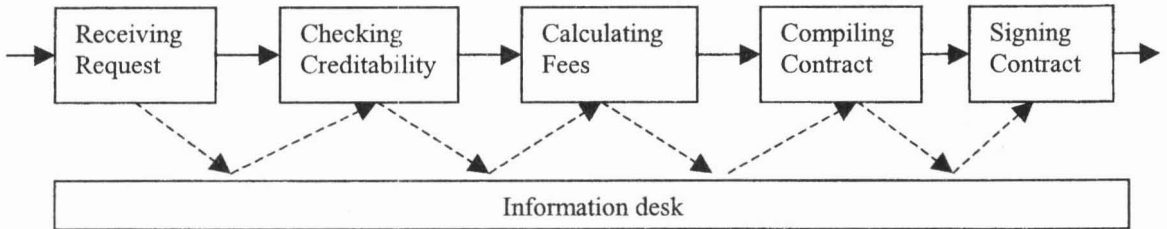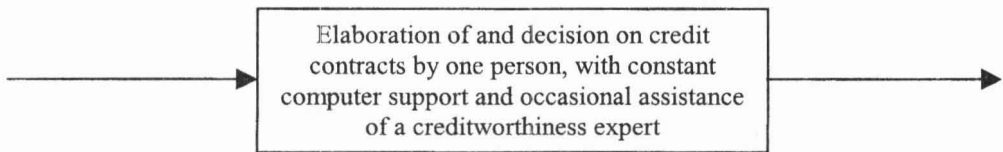**Figure 2.1 : The Process Before Reengineering at IBM Credit**

Figure 2.2 : The Process After Reengineering at IBM

(Applied IT tools : databases of financial advisor firms, word processor and spreadsheet software)

Business Process Reengineering in a Process: Ford

In the early 1980's Ford applied reengineering to the process of procurement. The process reduced to 125 people involved in the vendor payment instead of 500 people.

Figure 3.1 : The Process Before Reengineering at Ford
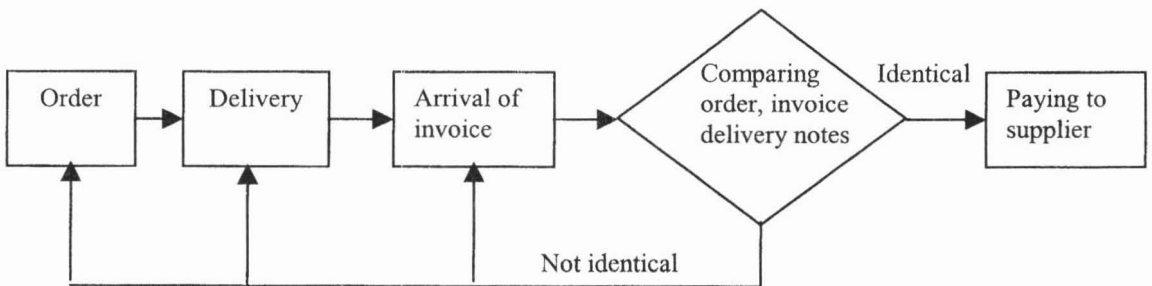
Figure 3.2 : The Process After Reengineering at Ford

(Applied IT tools: integrated logistics system, EDI.)
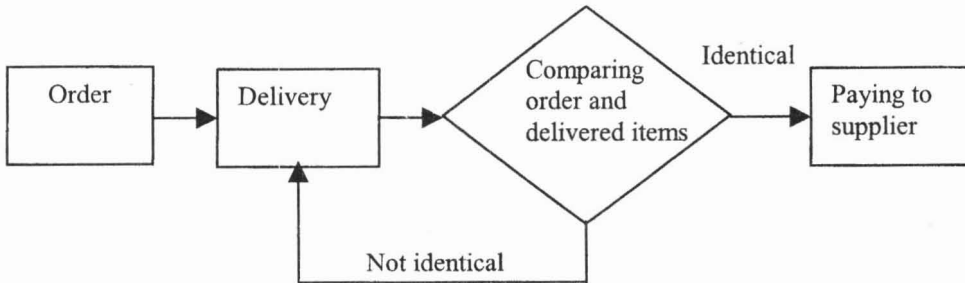
Business Process Reengineering of a Product : Kodak

In 1987, Kodak's archrival, Fuji, announced a new 35mm, single-use camera. Kodak had no competitive offering and its traditional product design take seventy weeks to produce a camera. To slash its time-to-market, Kodak reengineered its product development process through the innovative use of a technology called CAD/CAM to design at computer workstations. This technology permits manufacturing engineers to begin their tooling design just ten weeks into the development process, as soon as the product designers have given the first prototype. The time taken from concept to production took thirty-eight weeks. Kodak has reduced its tooling and manufacturing costs for the single-use camera by 25 percent using concurrent engineering.

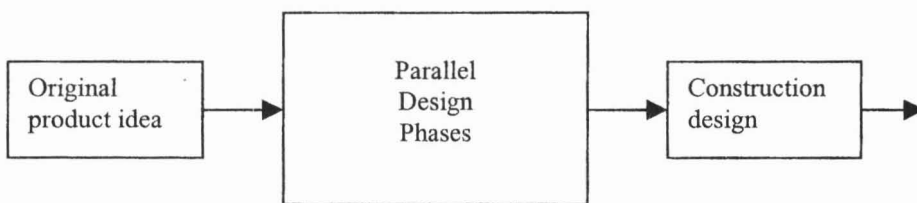**Figure 4.1 : The Process Before Reengineering at Kodak**
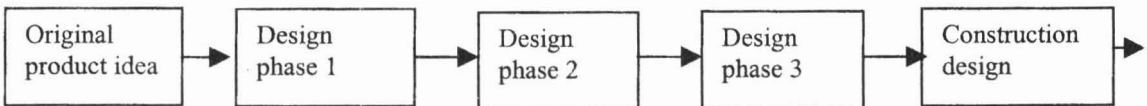
Figure 4.2 : The Process After Reengineering at Kodak:

(Applied IT tool: CAD workstations in groupware environment)

CONCLUSION

Rapid Re Methodology hopes to combine the clean sheet approach that provides unrestrictive creativity and innovation that can lead to breakthrough; and the methods that provide implicit and explicit approaches to proper implementation of BPR efforts. Caudle (1995) cited that government reengineering happens in a tumultuous political environment where a totally "clean sheet" approach often is not viable.

REFERENCES

Hammer, M & Champy, J. (1993). *Reengineering the Corporation: A Manifesto for Business Revolution.* US: Harper Business.

Khoong, C. M. (1999). *Reengineering in Action: The Quest for World Class Excellence.* US Imperial.

Khong, K. W. (2004). *Business Process Reengineering Notes (QMT780).* UiTM

Manganelli, R. L. & Klein, M. M. (1994). *The Reengineering Handbook: A Step-by-Step Guide to Business Transformation.* New York: AMACOM.

Obeng, E. & Crainer, S. (1994). *Making Re-engineering Happen.* UK: Pitman Publishing.

Heriyanto, Tedi. (2004). *Business Process Reengineering* http://www.tedi-h.com/papers/bpr. Accessed on 7/16/04.

Caudle, S. L. (1995). *Reengineering for Results: Keys to Success from Government Experience.* http://www.defenselink.mil/nii/bpr. Accessed on 7/16/04.

Orsak, G (2004). Reengineering with EAS packages: Is it possible? http://www.cornerstoneword.com/portol/catalyst/catalyst.htm. Accessed on 7/16/04.

Models for Change: Business Process Reengineering http://zeus.bke.hu/oktatas/cems/files/ProcessCatalysts.pdf. Accessed on 7/20/04.

Yerigan (2002). *BPR Blueprint* http://yerigan.home.comcast.net/articles/BPR_Manganelli. Accessed on 7/20/04.

_____. (2000). *American Heritage Dictionary of the Engineering Language,* Houghton Miffin. Fourth Edition.

_____. (1998). *Webster's Unabridged Dictionary.*

Blueprint for **Rapid Reengineering** (five stages, fifty-four tasks)

	1. PREPARATION	2. IDENTIFICATION	3. VISION	4a. SOLUTION: TECH. DESIGN	4b. SOLUTION: SOCIAL DESIGN	5. TRANSFORMATION
Purpose	Mobilize, organize, and energize the people who will perform reengineering	Develop and understand a customer-oriented process model of the business	Develop a process vision capable of achieving breakthrough performance	Produce a process design capable of achieving the process vision (technical design)	Specify the social dimensions of the new process (performed concurrently with 4a)	Realize the process vision by implementing the process design produced in stage 4
Outcomes	• Mandate for change • Organization structure, and charter for the reengineering team • Game plan	• Definitions of customers, processes, and measures of performance & success • Identification of value-adding activities • Process Map of the organization, resources, volumes, and frequency • Selection of the processes to reengineer	• Identify current process elements: org., systems, info. flow, and current process probs. & issues • Comparative measures of current performance • Improvement opportunities/objectives • Definition of what changes are required • Statement of the new process "vision"	• Descriptions of technology, standards, procedures, systems & controls employed by the new process • Preliminary plans for systems & procedures development; HW, SW & services procurement; facilities enhancement, test, conversion, and deployment	• Descriptions of the organization, staffing, jobs, career paths, and incentives employed by the improved process • Designs for the interaction of 4a & 4b. • Preliminary plans for recruitment, education, training, reorganization, and redeployment of personnel.	• Pilot version of the new process produced. • Full production version of the new process produced. • Continual changes managed throughout the production version's life.
Tasks	1.1 Recognize the Need 1.2 Develop Executive Consensus 1.3 Train the Reengineering Team 1.4 Plan the Change	2.1 Model Customers 2.2 Define & Measure Performance 2.3 Define Entities 2.4 Model Processes 2.5 Identify Activities 2.6 Extend Process Model 2.7 Map Organization 2.8 Map Resources 2.9 Prioritize Processes	3.1 Understand Process Structure 3.2 Understand Process Flow 3.3 Identify Value-Adding Activities 3.4 Benchmark Performance 3.5 Determine Performance Drivers 3.6 Estimate Opportunity 3.7 EnVision the Ideal (External) 3.8 EnVision the Ideal (Internal) 3.9 Integrate Visions 3.10 Define SubVisions	4a.1 Model Entity Relationships 4a.2 Reexamine Process Linkages 4a.3 Instrument and Informate 4a.4 Consolidate Interfaces & Info. 4a.5 Redefine Alternatives 4a.6 Relocate & Retime Controls 4a.7 Modularize 4a.8 Specify Deployment 4a.9 Apply Technology 4a.10 Plan Implementation	4b.1 Empower Customer Contact Personnel 4b.2 Identify Job Clusters 4b.3 Define Jobs/Teams 4b.4 Define Skills & Staffing Needs 4b.5 Specify Mgmt. Structure 4b.6 Redraw Org. Boundaries 4b.7 Specify Job Changes 4b.8 Design Career Paths 4b.9 Define Transitional Organization 4b.10 Design Change Mgmt. Program 4b.11 Design Incentives 4b.12 Plan Implementa'n	5.1 Complete Business System Design 5.2 Perform Technical Design 5.3 Develop Test & Rollout Plans 5.4 Evaluate & Select Personnel 5.5 Construct System 5.6 Train Staff 5.7 Pilot New Process 5.8 Refine & Transition 5.9 Continuous Improvement

Methodology from "The Reengineering Handbook" – Raymond L. Manganelli & Mark M. Klein, published 1994. Notes by Scott Yerigan. February 21, 2002

Questions for **Rapid Reengineering**

1. PREPARATION	2. IDENTIFICATION	3. VISION	4a. SOLUTION: TECH. DESIGN	4b. SOLUTION: SOCIAL DESIGN	5. TRANSFORMATION
Purpose Mobilize, organize, and energize the people who will perform reengineering	Develop & understand a customer-oriented process model of the business	Develop a process vision capable of achieving breakthrough performance	Produce a process design capable of achieving the process vision (technical design)	Specify the social dimensions of the new process (performed concurrently with 4a)	Realize the process vision by implementing the process design produced in stage 4
Questions ❑ What are senior executives' objectives and expectations? What is their level of commitment to this project? ❑ What should the goals for this project be? How aggressive can we make them without sacrificing realism? ❑ Who should be on the team? What mix of skills/capabilities should be represented on the team? ❑ What skills/capabilities are not available to team members? How can they be developed or acquired? ❑ What specific reengineering skills will team members need to learn? ❑ What will we need to communicate to employees to earn their support and trust?	❑ What are our major business processes? ❑ How do these processes interface with customer and supplier processes? ❑ What are our strategic processes? ❑ Which processes should we reengineer within ninety days, within one year, subsequently?	❑ What are the primary sub-processes and steps of our selected process? ❑ How do resources, info., and work flow through each selected process? ❑ Why do we do things this way? What assumptions are we making about our current work flow and policies? ❑ Are there better ways to achieve our goals and serve customer needs that seem impossible today? ❑ How might we redefine boundaries between our processes' customers/suppliers? ❑ What are the key strengths/weaknesses of each selected process? ❑ How do other companies do these processes? ❑ What measures should we use when benchmarking our performance against best-in-class companies? ❑ What is causing the gap between our performance and that of best-practice companies? What can we learn from these companies? ❑ What are the specific improvement goals for our new processes? ❑ What is our vision? How can we communicate our vision for change to all employees?	❑ What technical resources and technologies will we need in the reengineered process? ❑ How can these resources and technologies best be acquired? ❑ How will the technical and social elements (e.g., the human interface of the system) interact?	❑ What technical and human resources will we need to reengineer? What activities will each reengineering team member be responsible for? What priorities and dependencies exist? ❑ What immediate opportunities exist? What can we accomplish in ninety days? One year? Beyond one year? ❑ What human resources will we need in the reengineered process? ❑ What targets and measures should we establish? ❑ How will responsibilities change? What training programs will be needed? ❑ Who is likely to resist changes called for? How can they be motivated to accept these changes? What other obstacles exist? ❑ What will our new organization look like?	❑ When should we begin to monitor progress? How do we know if we're on the right track? ❑ What mechanism should we develop for solving unanticipated problems? ❑ How do we ensure the transition period goes smoothly? ❑ How can we continue to build momentum for ongoing change? ❑ What technique should we use to realign the organization?

Call Scott Yerigan
415-243-5081
for assistance with
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