BPR CONCEPT AS THE FACTOR OF SUCCESSFUL ELECTRONIC BUSINESS OF A MODERN COMPANIES

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ABSTRACT

We exist in the Internet age, of ever faster, dramatic, complex and unpredictable changes, which have various names: age of information, the age of third informatics revolution, new economy, digital economy, digital revolution, web economy, economy of knowledge, information economy, etc. Internet requires new ways of modern business, and the concept of Business Process Reengineering (BPR) is a tool that can be achieved. If the company had not applied the concept of BPR and hasn't strong reengineered business processes its electronic business will be a nightmare, not a perfect ideal.

Key words: BPR concept, information technology, Internet, electronic business, CRM concept

1. INTRODUCTION

Anybody knows that we are existing in the era of the Internet. The Internet brings with it ubiquitous connectivity, real-time access, and a simple universal interface provided by Web browsers. Traditional enterprises are transforming themselves into electronic business (e-businesses) by reinventing the way they carry out their business processes to take full advantage of the capabilities of the Internet. It is hard to recall any other innovation that has received as much press or as much hype. Yet businesses will only be able to harness the true power of the Internet if they realize that it too must be tied to BPR concept.

What's so different about e-business projects? Many e-business projects require BPR to succeed (adapted by: Yourdon, 2001):

- We had the same experience a two decades ago, when client/server technology was introduced,
- BPR guru Michael Hammer concluded that 80% of BPR projects were failures,
- Many e-business projects were launched with no "business model" for identifying benefits, revenues, customers, or rationale for success,
- Many e-business projects are "re-paving old cowpaths," using Internet/web to carry out the same old business processes with new technology, but no fundamental improvements,
- Thus, e-business project managers must realize that part of their role is be the BPR "champion" or "facilitator",
- But there is a big risk: most project managers lack the authority or political power to impose BPR upon user departments.

2. INTRODUCTION TO BPR CONCEPT

Hammer (1990) and Davenport and Short (1990) were the first to report on more or less systematic approaches to generate radical performance improvement of entire business processes. Their major vehicles were the application of information technology on the one hand and the restructuring of the business process in question on the other. This approach was coined with the terms "Business Process Reengineering" by Hammer (1990) and "Business Process Redesign" by Davenport and Short (1990), to both of which we will refer to as BPR concept.

BPR concept was embraced by industry in the early nineties. Despite great successes and failures, high acclaim and sharp criticism, "process-thinking" and BPR concept by now have become main-stream thinking in industry (Sharp and McDermott, 2001) and have permanently influenced management and computer sciences (Heusinkveld and Benders, 2001).

Why is BPR concept held in such ill repute in some circles? A few opinions are that what occurred was an inevitable backlash to the excessive enthusiasm with which the press and business public first embraced BPR concept. In the early 1990s, there was scarcely a business magazine that did not run a cover story on BPR concept, and, likewise, there was scarcely a corporation that did not start a BPR concept effort. More than a touch of hysteria permeated this phenomenon. Through the 1980s, US firms had been searching desperately, and in vain, for some way to permanently improve their operations. Everything they tried either did not work or produced positive results only fleetingly.

Then BPR concept, which already had a successful track record, became more widespread. The experiences of Ford, Kodak, Union Carbide, and the numerous other firms cited in books, in other publications, and in the early press reports, made it clear that BPR concept was not a hypothesis: It actually worked.

The emphasis on processes as a focus for improving an organization's performance has gone through a number of phases shown in Figure 1. Roots of BPR concept go back approximately 30 years (Yerex, 2002):

- Total Quality Management (TQM) phase led by the Japanese - Continuous incremental improvement. Reduction of variability and defects in process outputs,
- Early (First - Wave) BPR - Blow it all up and start over. Obliteration of old task-oriented processes and replacement with radically innovated business processes,
- Second - Wave BPR:
  - Time - based competition - Transformation of process flows and organization to be fast, focused, and flexible,
  - Web-enabled electronic business - Cross-enterprise Internet processes with suppliers, customers, and partners,
  - Knowledge management - Expanding the knowledge creation capacity of business processes.

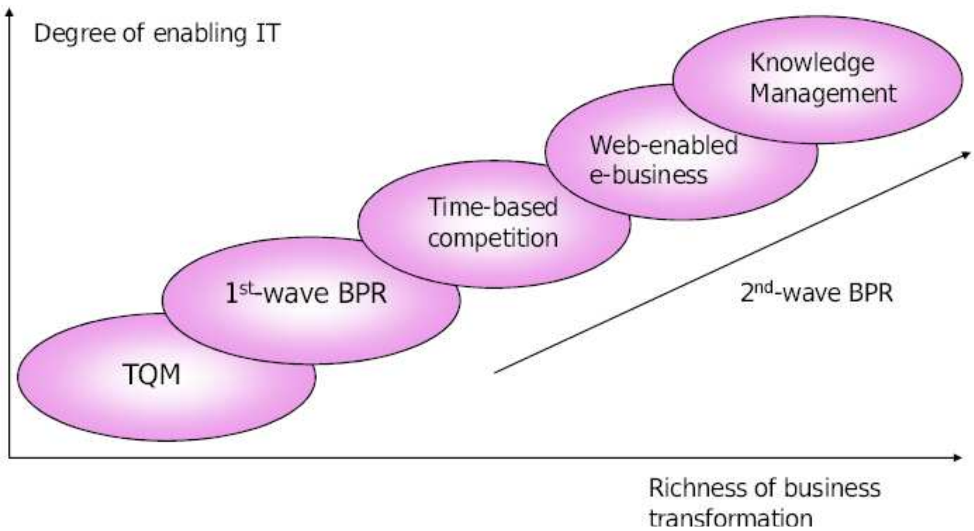

Figure 1: Evolution of BPR (Jarvis, 1999)

Why does BPR happen (Yourdon, 2001):

- Primarily because of extreme pressure for improvement
- "Extreme pressure" is usually initiated externally
- Typical factors
  - intense competition in global markets

    - radical opportunities caused by new technologies (e-business)
    - social/political change (e.g., privatizing of public enterprises)
- Typical private sector example: discovering your competitor generates same revenue with much less people
- Another example: discovering your competitor has a process with "cycle time" much faster than yours (e.g., processing time for a mortgage application in a bank, or response time for customer service inquiry)
- Typical public sector example: taxpayer revolt that leads to 50% reduction in budget for a government agency - or politician's promise of "e-government"

"Reengineering," properly, 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 (Hammer & Champy, 2002). This definition contains four key words.

In the 1st place, key word is *fundamental.* In doing BPR, businesspeople must ask the most basic questions about their firms and how they operate: Why do we do what we do? And why do we do it the way we do? Asking these fundamental questions forces people to look at the tacit rules and assumptions that underlie the way they conduct their businesses. Often, these rules turn out to be obsolete, erroneous, or inappropriate. BPR concept takes nothing for granted. It ignores what *is* and concentrates on what *should be.* In the 2nd place, key word in BPR concept definition is *radical* meaning "root." Radical redesign means getting to the root of things: not making superficial changes or fiddling with what is already in place, but throwing away the old. In BPR concept, radical redesign means disregarding all existing structures and procedures and inventing completely new ways of accomplishing work. BPR concept is about business *reinvention* - not business improvement, business enhancement, or business modification. In the 3rd place, key word is *dramatic.* BPR concept isn't about making marginal or incremental improvements but about achieving quantum leaps in performance. BPR concept should be brought in only when a need exists for heavy blasting. Marginal improvement requires fine-tuning; dramatic improvement demands blowing up the old and replacing it with something new.
Hammer and Champy (1993) recognized three types of companies that undertake BPR:
- Companies that find themselves in deep trouble - they have no choice,
- Companies that are not yet in trouble but whose management has the foresight to see trouble coming,
- Companies that are in peak condition - they have no discernible difficulties, either now or on the horizon, but their managements are ambitious and aggressive.

In the 4th place, key word is *processes.* Although this word is the most important in BPR concept definition, it is also the one that gives most corporate managers the greatest difficulty. Business process is a collection of activities that takes one or more types of input and creates an output that is of value to the customer. Most businesspeople are not process-oriented; they are focused on tasks, on jobs, on people, on structures, but not on processes.

BPR concept is in essence a performance improvement philosophy that aims to achieve quantum improvements by primarily rethinking and redesigning the way that business processes are carried out. This performance improvement philosophy can be better understood by examining the implicit assumptions surrounding the B, the P and the R in BPR:
- P: A primary focus on essential processes that deliver outcomes is the signature of all variants of BPR.
- B: The BPR perspective defines the boundaries of a process in a way that makes sense in terms of business value.
- R: Assumptions:
    - Search for quantum improvements,
    - Use of IT to enable the process to be done in new ways that are qualitatively different,
    - Maximize value-added content of a process,
    - Value can be measured,
    - Environment will have to be concurrently changed (Yerex, 2002).

3. BPR CONCEPT FOR SUCCESSFUL E- BUSINESS

We exist in the Internet age, of ever faster, dramatic, complex and unpredictable changes, which have various names: age of information, the age of third informatics revolution, new economy, digital economy, digital revolution, web economy, economy of knowledge, information economy, etc. The Internet brings with it ubiquitous connectivity, real-time access, and a simple universal interface provided by Web browsers. Traditional enterprises are transforming themselves into electronic business (e-businesses) by reinventing the way they carry out their business processes to take full advantage of the capabilities of the Internet. The Internet allows an enterprise to communicate instantly with customers, suppliers, and partners. It changes the way information can move across enterprises, the way business transactions are carried out, and the way relationships are nurtured and maintained. These new conditions enable new ways of creating value that take advantage of the effects of realtime network connectivity.

The two concepts e-business and electronic commerce (e-commerce) are often mixed up. E-business can be understood as the ability of a firm to electronically connect, in multiple ways, many organizations, both internally and externally, for many different purposes (Fahey et al., 2001). This rather broad definition is further refined (Gloor, 2000), who distinguishes e-business from e-commerce. E-business covers the application of Internet technology (Internet, intranet, extranet) in all aspects of the business world. This includes, apart from e-commerce processes, for example Internet and service providers, and providers of market places and reversed auctions. Additionally, Gloor defines the term e-commerce for the activities related to marketing, buying and selling of products and services on the Internet. Therefore, e-business is much more than electronic commerce. E-business involves changing the way a traditional enterprise operates, the way its physical and electronic business processes are handled, and the way people work.

Electronic business (e-business, defined as business activities conducted over the Internet) has been one of the most remarkable information technology (IT) innovations in the last decade (Zhu et al., 2003). Firms such as Dell, Wal-Mart, Charles Schwab, and Capital One have achieved tangible improvements in operational efficiency and customer intimacy by integrating e-business into their business models.

E-business is using the network and distributed information technology, knowledge management, and trust mechanisms to transform key business processes and relationships with customers, employees, suppliers, business partners, regulatory parties, and communities (Craig and Jutla, 2000). E-business is about changing business models to create new or increase value for the customer.

What is BPR for e-Business? *BPR for e-business involves rethinking and redesigning business processes at both the enterprise and supply chain level to take advantage of Internet connectivity and new ways of creating value (Yerex, 2002).*

BPR is carried out within the larger context of organizational change (Yerex, 2002):
- Process - centric,
- People,
- Technologies,
- Organizational form & structure.

BPR as well as successful organisational change needs a balance of all these elements in a viable combination (Jarvis, 1999).

The Leavitt diamond shown in Figure 2. is an intuitive conceptual framework that shows how we can think of the dynamics of this balance. The Leavitt diamond shows four sets of organizational variables: information technology use, organizational form, requisite people skills, and business processes. When any one of those is changed, the other three need to be adjusted accordingly so that the diamond remains in functional harmony.

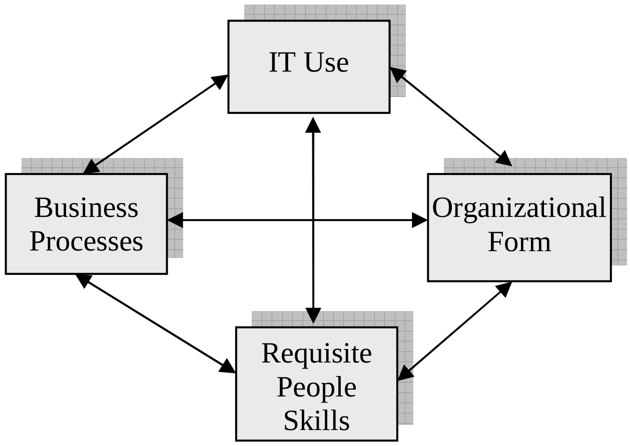

Figure 2: A conceptual framework for evaluating & balancing IT-enabled change (Jarvis, 1999)

Different perspectives of organizational change emphasize one of four sets of variables:
- IT Driven perspectives emphasise importance of integrated IT architecture,
- Organizational design perspectives focus on finding new organisational form,
- Human resource perspective emphasise empowerment, rewards systems and training,
- BPR perspectives focus primarily on business processes.

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 (Hammer and Champy, 2002). *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".

In the 1990s, BPR focused on internal benefits such as cost reduction, company downsizing and operational efficiency, which are more tactically than strategically focused. Nowadays, e-business renovation strategies focus on the processes between business partners and the applications supporting these processes. These strategies are designed to address different types of processes with the emphasis on different aspects (Kalakota and Robinson, 2001):
- Customer Relationship Management (CRM),
- Supply Chain Management (SCM),
- Selling-Chain Management,
- Enterprise Resource Planning (ERP).

As the business environment moved further toward customer-centricity and a service-based business model, the CRM process became a critical enterprise process to be redesigned and improved. CRM is the customer life cycle process of identifying, securing, nurturing, and keeping customers. e-CRM is a new phenomenon that come out from the Internet and web technology to facilitate the implementation of e-CRM. It focuses on Internet- or web-based interaction between customer and service provider (Chang et al., 2005). CRM concept allows different ways of managing knowledge around front-office processes and thus enables BPR of these processes. As opportunities for creating value in e-business settings continue to grow around capturing customer knowledge and redesigning customer interaction processes, CRM may become the driving backbone of enterprise IT architecture. BPR driven by e-business should not be based solely on the radical redesign of intra-organizational processes, but should be extended to the entire business network (internal and external). An enhancement geared to include inter-organizational processes is called Business Network Redesign (Alt et al., 2000). Business Network Redesign (BNR) is driven by global information connectivity and e-commerce. It identifies inter-organizational processes to redesign and extend the strengths of BPR to networking among business partners.

4. CONCLUSIONS

The BPR concept and electronic business have a symbiotic relationship (adapted by: Hammer and Champy, 2002): Without BPR concept, e-business delivers little payoff; without e-business, little BPR concept can be done. Successful application of the BPR concept for e-business is much more than Web-enabling. It involves redesigning enterprise processes across entire supply chains, whether they be front-office processes that interface with the customer or back-office processes or how back-office and front-office processes are connected together. Electronic business-enabled BPR concept of a modern companies must comprise rethinking and redesigning business processes at both the enterprise and supply chain level to take advantage of Internet connectivity and new ways of creating value. Customer Relationship Management concept allows different ways of managing knowledge around front-office processes that interface with the customer and hence enables BPR of these processes.

REFERENCES

Alt, R., Fleisch, E., Reichmayr, C. (2000). *Developing eCommerce within Business Networks – The Case of ETA SA*. Thirteenth International Bled Electronic Conference, Bled, Slovenia.

Chang, T. M., Liao, L.L., & Hsiao, W.F. (2005). *An Empirical Study on the e-CRM Performance Influence Model for Service Sectors in Taiwan*, Proceedings of IEEE International Conference on e-Technology, e- Commerce and e- Service (EEE'05), National Sun Yat-Sen University, Kaohsiung, Taiwan., 240-245.

Craig, J., & Jutla, D. (2000). *e-Business Readiness: A Customer-Focused Framework. 1st ed*. Addison-Wesley Professional.

Davenport, T. H., & Short J. E. (1990). *The new industrial engineering: Information Technology and Business Process Redesign*. Sloan Management Review, 31(4), 11-27.

Fahey, L., Srivastava, R., Sharon J.S., & Smith D.E. (2001). *Linking e-business and operating processes: The role of knowledge management*. IBM Systems Journal, 40(4), 889-907.

Gloor, P. A. (2000). *Making the e-business transformation*. London: Springer Verlag.

Hammer, M. (1990). *Reengineering Work: Don't automate, obliterate.* Harvard Business Review, 68(4), 104-113.

Hammer, M., & Champy J. (1993). *Reengineering The Corporation*. Nicholas Brealy. London.

Hammer, M., & Champy J. (2002). *Reengineering The Corporation*. HarperCollins Publishers.

Heusinkveld, S., & Benders, J. (2001). *Surges and Sediments: shaping the reception of reengineering*. Information & Management, 38(4), 239-251.

Jarvis, C. (1999). *Operations Consulting Skills & Business Process Re-engineering*. Brunel School of Business & Management.

Kalakota, R., & Robinson, M. (2001). *e-Business 2.0: roadmap for succes*. Addison-Wesley.

Sharp, A., & McDermott, P. (2001). *Workflow Modelling: Tools for process improvement and application development.* Boston: Artech House Publishers.

Yerex, R. P. (2002). *Introduction to BPR for e-Business.* www.ncat.edu

Yourdon, E. (2001). *Managing e-Business/Internet-Time Projects. version 2.05.* www.yourdon.com

Zhu, K., Xu, S., & Dedrick, J. (2003). *Assessing Drivers of E-business Value: Results of a Cross-Country Study*. Twenty-Fourth International Conference on Information Systems.

Business process re-engineering (BPR) is a business management strategy, originally pioneered in the early 1990s, focusing on the analysis and design of workflows and business processes within an organization. BPR aimed to help organizations fundamentally rethink how they do their work in order to improve customer service, cut operational costs, and become world-class competitors. A successful business dedicates its resources and consistently focuses on providing quality service and products every single time. 6. Unfailing Resilience. Once thing youâ€™re going to need as a business owner that you may not have been aware of is resilience. Companies will hit rough patches. On your road to success, youâ€™re bound to make a few mistakes. Learn from your blunders and bounce back from setbacks. Even very successful companiesâ€”for instance, Jet Blue, Pepsi Co, and Johnson & Johnsonâ€”have faced some madness along the way. The great ones have been able to recover, though, and get