BUSINESS PROCESS REENGINEERING: CONCEPTS, CAUSES AND EFFECT

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ABSTRACT

Some people made a wrong concept about Business Process Reengineering (BPR). Some were misunderstanding about the BPR term. In other way, so many researches were introduced to describe a better definition about BPR. The thinking about concepts, causes, and effect of BPR will make a new perception about the term of BPR itself as a better methodology instead of the other Quality Management Methodology such as Total Quality Management (TQM), Just In Time (JIT), etc. This paper will mention the context of BPR in some of case study's journal.

Keywords: Business Process Reengineering (BPR).

1. INTRODUCTION

In order to make better performance, such company does an improvement process. Some of them do innovation process. In the 80's, the term Total Quality Management (TQM) was published as a tool for improvement process. In 90's, the Business Process Reengineering (BPR) was introduced as an innovation process especially for the US company, because of the competitiveness from the Japan's.

TQM and BPR are the same term for Quality Management System. It means, both of them are belonging from the same core system. Despite of TQM and BPR, there is another Quality Management System such as Just-In-Time (JIT), Six Sigma, etc. This paper will give opinion about the Business Process Reengineering aspect, which held the success and the failure for some company who had ever implemented the BPR.

2. PROCESS DEFINITION

The context of this topic is determining the process which held in every enterprise. Some of them describe a process as "a set of logically related tasks performed to achieve a defined business outcome,"(Davenport and Short in BRINT 1998). Some of them define as "a logical series of dependent activities which use the resources of the organization to create, or result in, an observable or measurable outcome, such as a product or service" Hickman (BRINT 1998), while Childe et al. (BRINT 1998) define a process more simply as "a series of continuous activities or operations which are performed upon a commodity", where a commodity might be conceptual or material.

Processes are generally identified in terms of beginning and end points, interfaces, and organization units involved, particularly the customer unit. High impact processes should have process owners. Examples of processes include: developing a new product;

ordering goods from a supplier; creating a marketing plan; processing and paying an insurance claim; etc.

Processes may be defined based on three dimensions (Davenport and Short, 1990 in BRINT 1998):

- *Entities*: Processes take place between organizational entities. They could be Inter-organizational (e.g. EDI), Inter-functional or Interpersonal (e.g. CSCW).
- *Objects*: Processes result in manipulation of objects. These objects could be Physical or Informational.
- *Activities*: Processes could involve two types of activities: Managerial (e.g. develop a budget) and Operational (e.g. fill a customer order).

Industrial Processes has divided to three-way typology of processes (Paul Allaire, CEO of Xerox in Silvestro, 2000) instead of:

- Management processes, which set the organizational context and style of working;
- Business processes, which are large, cross-cutting collections of activities like product design, order fulfillment and customer service.
- Work processes, which focus on how the work gets done, for example, activities such as prototype development, finished-goods warehousing, purchasing.

In the BPR literature, Childe (Silvestro, 2000) argue that "there is substantial commonality of processes across industry types" and identify as the generic processes, which again appears to the traditional functions:

- Direction setting process (*corporate planning*)
- Order flow process (*production operations and distribution*)
- Service process (*service operations*)
- Capital markets (*finance*)
- Labor markets (*HRM*)
- Technology markets (IT, maintenance services)
- Factor markets, defined as the processes of make-or-buy decisions and supplier development (*purchasing*)
- Product/service markets, defined as the process which maintains the awareness of potential customers (*marketing*)

There was such model which represent recent literature on improving productivity and quality indicates that there is a need to integrate various functional areas. To integrate these various function, a company has to consider the use of IT.

From the picture on Figure 1, it can be described that BPR will effect all term of company's processes from the supplier to the customer chain include the environment that affect product, order flow, technology, delivery of goods to customers, marketing/sales, strategic processes, service processes, support services, accounting, personnel, to form the part of major business process.
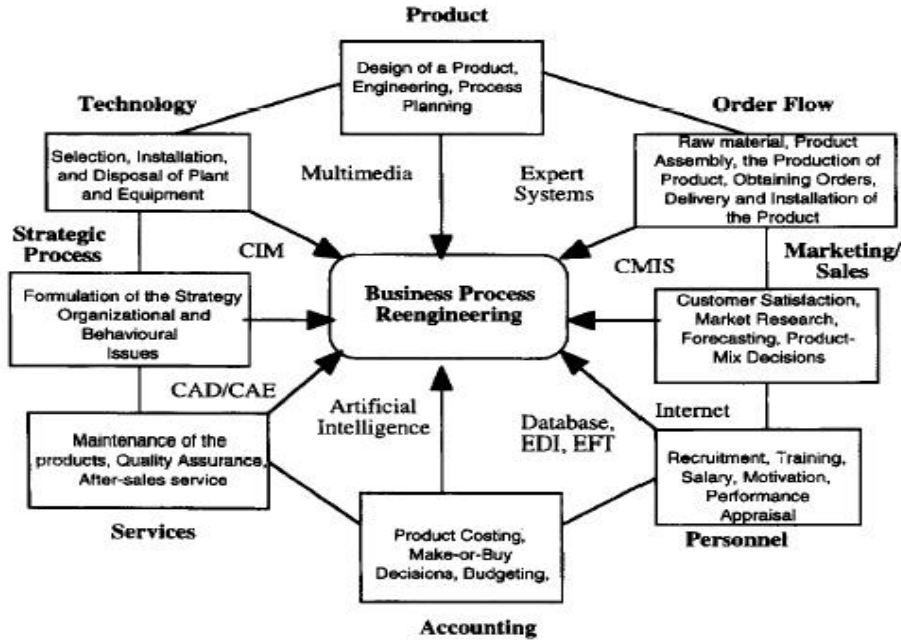
Figure 1. A Conceptual Model to Illustrate the Role of IT in BPR

3. BUSINESS PROCESS REENGINEERING

Business Process Re-engineering (BPR) is a concept about process improvement in dramatically approach. BPR is concerned with making significant, radical changes to a company based on the business process. It has been defined by Hammer and Champy, 1993 (in Jones, 1997) as the fundamental rethinking and radical redesign of processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality service, and speed.

Hammer, 1990 (in Gunasekaran, 1997) referred to business process reengineering, while Davenport and Short, 1990 (in Gunasekaran, 1997) to business process redesign. There are still many other authors with variations on these terms. All referring to process changes large and small. For example:

- Business Process Improvement
- Core process design
- Process innovation
- Business process transformation
- Breakpoint business process redesign
- Organizational reengineering
- Business process management
- Business scope redefinition
- Organizational change ecology
- Structured analysis and improvement

The keywords for the Business Process Reengineering are fundamental, radical, dramatic, and process. Its word has its meaning itself. The business process has to make

fundamental changes to improve productivity and quality. Fundamental is the term of *what* and *how*. The term *What* represent as a performance, a static performance. It relates to the operations which the company has to perform to achieve the business objective. And *How* describe as the sequence of the performance. The sequence of activities would be carried out in order to accomplish an operation. If *what* is an input a data-entry from a customer, then *how* is the sequential of the input process of a data-entry. The method of carrying out the activities of the defined operation can vary from time to time according to the change of technology, customer expectation and company culture.

The word 'radical' means an organization or an enterprise should throw away the old ways and inventing the new way to make a better performance. This term might be called as "clean-slate". However, there are doubts if such changes to be implemented. A change process cannot be just implemented or as if there were nothing prior to the change. The reality is that there are factors considered to be critical for the success of a BPR effort, such as the need for the conduct of effective change management, the establishment of systems to ensure that staff from different functions work together, and the promotion of stakeholder involvement with effective planning and project management. Such factors reflect the need to implement changes within the existing framework of thins. Furthermore, the consideration of the existing situation has been a part of the steps of proposed BPR methodology.

Dramatic process can be defined as a quantum leap result. The accomplishment for a BPR project is expected as a 'jumping' result, not as an improvement or incremental result. There are three possible situations that a company needs a reengineering. First, the company may be in a desperate situation. It needs dramatic improvement to survive. Second, the company may be doing quite well, but the management has the foresight and is expecting threatening real and serious problems and competitions in the very near future. Third, the company may be doing quite well, and no problem is expected. But then, the ambitious management of the company wants to do better and to make it even more difficult for others to enter into the competition.
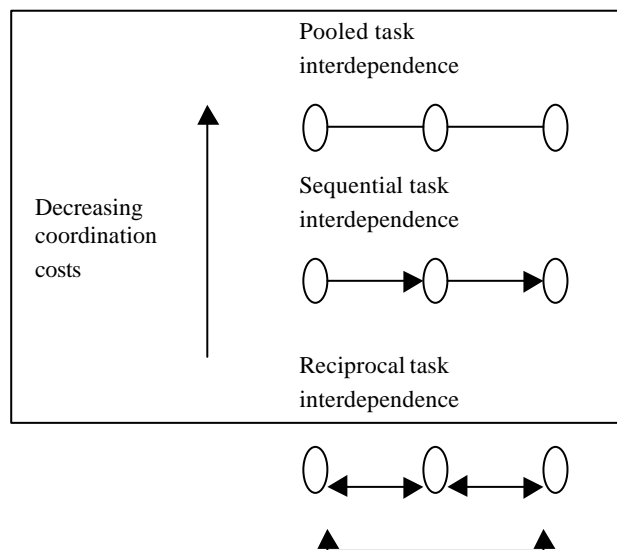

Figure 2. Types of Task Interdependent

Process, as mentioned above, is a collection of activities that takes one or more kinds of input and creates an output that is of value to customer. A process would be changed by the three basic term of BPR. A process within an organization usually seems as reciprocal task interdependence. In the term of reengineering, it should be reengineered to better process such as to sequential task or even to pooled task interdependence. If a company could make a changing toward the process, it could reduce the coordination costs. It means, the company could provide better performance in the financial term.

4. CAUSES AND EFFECT OF BPR

A company has willingness to change because of the inefficiency process, the decreasing of market share, the increasing of unsatisfied customer, or the competitor challenges.

Hammer and Champy, 1993 (in O'Neill, 1999) went further to identify three kinds of companies that undertake engineering. First, company that find themselves in deep trouble. They have no choice instead of needs magnitude improvement, that company clearly needs business reengineering. Second, companies that are not in trouble but whose management can see trouble coming. Third, companies that are in peak condition and see an opportunity to develop a lead over their competitors.

Some effect has been mentioned in published journal. Many of BPR case study was failed on the implementation. Only 5 % from all of the company who implemented the BPR was successfully implemented.

Ford Motor Company changed from the sequential process to the pool process. First time, Ford Motor had 500 employees for account payable department, matching purchase order, receiving report & suppliers invoice. The reengineered system eliminates reconciliation to supplier invoices and reduces head count by 75 %. Electronic payments were made once the receiving details match the purchase orders.

IBM Credit Company made changes from sequential to pooled interdependence. Once a credit request, there are 4 departments that must be passed toward the credit decision, financing arrangement, credit checking, approval and issuance. Each process was done by each department. The reengineered system combined the fourth process into pooled interdependence, called by case manager, which handled the fourth processes.

IBM PC made reengineering through Customer Relationship Management and Knowledge Management. In 1986 toward 1992, the IBM's market share decreased from 30% to 19%. IBM made a reengineering process through IT, called Inside IBM. Inside IBM provided online service center through IT based on an Expert System, which could provide information as customer needs. It made big changes to customer satisfaction.

A financial service company (Alpha) at New Zealand felt that there would be some competitor challenges. Alpha wanted to reengineer to make a better performance and could compete with other companies. Alpha reengineered the accounting process for each branch office to be a pooled interdependence or decentralized on the head office. Alpha failed to implement BPR because of lack of commitment, leadership and also support from the senior management. Some of the thinker of BPR design left the company. The company couldn't sustain the BPR process. And when it had been the due date for the payment of new software, the company must admit that they were in the bankrupt position. So then, a new company from Australia merged that company.

British Airways (BA) did such a cultural management to make a better performance. In the 80's, BA had a loss financial. The loss margin was about £140 million or £200 in a minute. The CEO built a new culture for the customer service process and trained the entire employee for 4 years more. The mission title was *Put People First*. This term made a big change and BA became a world's most profitable carrier company in 1996, the most graduates would like to work for (voted in 1996) and the second admired company in Europe by the year 2000. After that most accomplishment, many competitor with competitive price competed all of the carriers in the world. Because of discontinuity to maintain the mission and competitor stroke, by the end of 2000 BA had loss of £ 244 million on its main business.

From those examples, there was some concluding remark about BPR failure. Two major categories that Chan and Choi (Chan, 1997) mentioned are lack of understanding of BPR and the inability to perform BPR.

The lack of understanding of BPR happened because of misunderstanding of BPR. Many considered reengineering as an intuitive, creative endeavor instead of an engineering discipline. Some may confuse reengineering with other programs such as Total Quality Management (TQM) and some may confuse functions with process. Second cause to the lack of understanding of BPR is unrealistic expectation. Many managers have high expectation on BPR results. When the end results do not meet the unrealistic goals, they conclude that the BPR project has failed. These unrealistic expectations reduce the commitment and confidence of management to BPR.

The inability to perform BPR occurred because of some reason. The summary of all reason are lack of an effective methodology, wrong process and objectives, over reliance on information technology (IT) and the most important thing was lack of top management commitment. Reengineering needs a new way of thinking to break out of the old way and to develop visions. Nowadays, much methodology is proposed for BPR term. The wrong process and objectives cause happened because some managers may pick a process which did not add great value to the situation after reengineering. There may not be a dramatic improvement. It means, a wrongly defined change objective would assure reengineering failure. Some company over reliance on IT-based. They forgot to seek into the business process and attempt instead of simply automate the ineffective process. The most important things would be the top management commitment. BPR is a top down process. It will influence great things without the commitment of senior management or top management to the change and the shifting of operation and culture.

It also mentioned by Guimaraes (1997), the most accomplished project from BPR is operating effectively across organizational units. Most benefits that can be derived from BPR project are improving employee morale and productivity and also increasing customer satisfaction (quicker response to customer requests). BPR also made some impact to company's performance. The most impact performance occurred in personnel development and operating profit. At least, BPR could make some operational changes. The most significance changes happened in sales / order entry, production scheduling / planning, and product design / development.

5. DISCUSSIONS

Some people thought that BPR was ineffective. The reason might come because of over 70 % of companies failed to implement BPR process. Some of them thought that TQM is more powerful instead of BPR or other term of Quality Management System. Nowadays, the Quality Management term shift to Six Sigma process.

Table 1. Process Improvement (TQM) versus Process Innovation (BPR)
(Source: Davenport (1993, p. 11))

	Improvement	Innovation
Level of Change	Incremental	Radical
Starting Point	Existing Process	Clean Slate
Frequency of Change	One-time/Continuous	One-time
Time Required	Short	Long
Participation	Bottom-Up	Top-Down
Typical Scope	Narrow, within functions	Broad, cross-unctional
Risk	Moderate	High
Primary Enabler	Statistical Control	Information Technology
Type of Change	Cultural	Cultural/Structural
Underlying philosophy	Maintain harmony	Disrupt the status quo
Pace of change	Slow	Rapid

Most authors would seem to agree that if BPR helps focus attention on transformational change, without damaging core competencies and continuous improvement, it could effectively contribute to a total quality framework that will benefit the whole organization (O'Neill, 1999).

Chinese companies attempted to implement BPR Process. But there are some difficulties in the implementation because of the difference culture. BPR was introduced in US. And most the successful companies were US companies.

Culture will be a fundamental factor to implement BPR. The term of BPR is the similar term with radical design. If the culture doesn't fit to 'radical' one, it can influence a lot of things in a company.

Table 2. Chinese Culture versus American Culture
(Source: Hofstede and Bond, Hsu and Martinsons)

	Chinese Culture	American Culture
Social Philosophy	Aesthetic	Scientific
Decision-making	Holistic intuition	Inductive rationality
Relationship to nature	Belief in adapting to it	Belief in controlling it
Time orientation	Respect/preserves tradition	Encourages new initiates
Individualism	Low (family oriented)	High
Power distance	High	Low
Uncertainty	Accepted/tolerated	Seek to reduce it
Communications	Implicit	Explicit communications
Expression	Relationship-oriented	Function-oriented
Basis of trust	Personal	Systemic
Flow of information	Top-down directives And bottom-up reporting	Diversified networks

To make a better performance, BPR is one of a great methodology to accomplish it. Furthermore, it should conduct a research about the Indonesian culture to analyze whether it can be implemented or not.

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