Business Process Reengineering (BPR) and Thai Small and Medium Enterprises (SMEs)

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Abstract. This paper reviews literatures about business process reengineering (BPR), its general concepts, the success and failure factors that may affect the process of BPR, in order to determine appropriate techniques to apply this concept to the Small and Medium Enterprises (SMEs) in Thailand. Included in this paper are the reviews SMEs definition in Thailand. Unlike the large organizations with abundant resources, the Thai SMEs have to encounter many limitations in their operations such as the limitation of the budgets, the limitation of work force and the challenges from large firms.
The authors wish that this paper could stimulate the interests in BPR technique and it could be the initial step to support the BPR implementation for the SMEs in Thailand.

Keywords: Business Process Reengineering (BPR), Reengineering, Small and Medium Enterprises (SMEs)

1. Introduction

In 1997, many large enterprises in Thailand were affected by the financial crisis and had to close down their businesses. To stimulate the economy with high hope to make it a more sustainable one, the Thai government, at that time set up a campaign to promote the Small and Medium Enterprises (SMEs) with belief that they have a lower risk and high potential to grow under the time of crisis.

According to the Ministry of Industry, Thai SMEs can be classified into three broad categories as follows:

1. Production Sector SMEs (includes agriculture processing, manufacturing and mining)
2. Service Sector SMEs
3. Trading Sector SMEs (includes wholesales and retails)

In Thailand, the Office of Small and Medium Enterprises Promotion (OSMEP), Ministry of Industry (MOI) is a government entity responsible for creating SMEs supporting policy. In the year 2007, they have distributed the SMEs supporting plan for the years 2007-2012, which reports that, in 1999, there were about 2,754,525 SMEs in Thailand or about 99.5% of all businesses. Most of the SMEs, about 40 percent, were in trading sector, while the SMEs in service sector and production sector were about 29.7% and 29.6%, respectively. They generated the revenues of 3,041 million Baht or 38.9% of the GDP and employ 8,863,334 workers or 76.6% of total employments in Thailand. Recently, from Pongvutitham (2010), SMEs have generated about 9 trillion Baht or 37.8 per cent of GDP. Pongvutitham (2010) also noted that the total number of SMEs in Thailand can be expected to reach 5 million enterprises soon.

2. SMEs Definition

Many authors have provided their own interpretations of the SMEs by using the different criteria to classify them such as sales per annual, net fixed assets, number of employees and registered capital

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(Nattapong et al, 1994; Allal, 1999). However, the Ministry of Industry in Thailand set the criteria to classify the Thai SMEs as shown in Table 1 below:

Table 1: SMEs Classifications

(Source: Office of Small and Medium Enterprises Promotion (OSMEP), www.sme.go.th)

TYPE	SMALL	
	Employee	Capital (Million Bt)
Production	Not more than 50	Not more than 50
Service	Not more than 50	Not more than 50
Whole Sale	Not more than 25	Not more than 50
Retails	Not more than 15	Not more than 50

TYPE	Medium	
	Employee	Capital (Million Bt)
Production	51-200	51-200
Service	51-200	51-200
Whole Sale	26-50	51-100
Retails	16-30	31-60

According to the information given in Table 1, it is quite obvious that the Thai SMEs have to face with limitations both in terms of the number of employees and investing capital. Therefore, an effective utilization of their limited resources becomes vital, especially when they have to compete with large enterprises that have very well designed and structured systems.

3. The Needs to Improve

In today's fierce business competition environment, the company need to be highly responsive and adaptive to customers' demands, competitor actions, the changes in political/ethic/legal and economic situations. In order to stay competitive, the business process of the enterprise is required to be flexible enough to cope with the changes. As suggested by Hammer (1990); Davenport and Short (1990), from time to time, the enterprise should consider about conducting Business Process Reengineering (BPR) to create the new business process management system that helps increase the performance of the organization.

One of the examples for the need to improve could be a case of production system that in the past the manufacturing companies are required to produce their goods in the mass production or in the push system that did not pay much attention to the requirements from their customers. Nowadays, however, the companies put greater emphasis on customers' demands for high quality, flexible service, pricing and etc. According to Drucker (1994), this seems to be the new power and freedom of the customer to destroy many of early managerial assumption of the early management revolution. All of these changes cause SMEs to improve their existing business processes. One of the tools that they can use is the "Business Process Reengineering or BPR".

4. Business Process Reengineering (BPR)

4.1. Definition

According to [1], the Business Process Reengineering (BPR) is a thorough rethinking of all business processes, job definitions, management systems, organizational structure, work flow, and underlying assumptions and beliefs. BPR's main objective is to break away from old ways of working, and effect radical (not incremental) redesign of processes to achieve dramatic improvements in critical areas (such as cost, quality, service, and response time) through the in-depth use of information technology.

4.2. Business Improvement and Business Reengineering

According to Carlzon (1987), all organizations must go through the business improvement whether they have a plan to conduct the BPR, or not. Nevertheless, it would be better if the company plans for the business

reengineering: then, maintain and improve the system through the business improvement afterwards. As shown in Table 2, the business improvement does not radically adjust the whole processes in the company and will not dramatically improve the company like the business reengineering does. It will maintain the system and continuous improve performance such as reducing some cost, lead time, and monitor the service and quality.

4.3. BPR Tools

There are many different tools and techniques to implement the BPR to bring forth the dramatically improvement of the processes for the whole organization. Most of the BPR implementations have to use many tools and techniques to cover the all areas of the business process. These tools and techniques are shown as follow.

Process visualization. The step to see the processes by visualization ranging from simple, short–running processes to complex long–running process to quickly understand the logic behind a process and to get a quick overview of related tasks. These are the development of an ideal "end state" for process to be reengineered. (Barret, 1994) suggest that the key to successful reengineering is the development of a vision of the process.

Process mapping/operational method study. These tools are often ignored but (Cypress, 1994) is recommended that this method is suit for the reengineer. Now a day, this concept have been incorporated in to tools such as IDEF0 (Integrated Definition Method), DFD (Data Flow Diagrams), OOA (Object Oriented Analysis),(Yu and Wright, 1997), and Prince2 (Process based Project Management, see internet reference:)

Change management. The adjusting business from the effect of environment to be flexible and quickly respond, including the forecasting for planning in the future. Some authors (Mumford and Beekma, 1994; Bruss and Roos, 1993) suggest that the changing management is the largest task of reengineering. (Kennedy, 1994) said that the incorporate the human element of reengineering due to the perceived threat it has on work methods and jobs.

Benchmarking. The exchange of knowledge and experiment among the organization or comparison among the competitors. (Harrison and Pratt, 1992; Chang, 1994; Furey, 1993) suggest that the benchmark is the form of integral part of reengineering, since the company done the visualization and development of process of other companies.

Process and customer focus. The main objective of BPR, (Chang, 1994; Bantrappen, 1992) said that the redesigning processes with regard to improving performance from the customers' perspective. (Harrington, 1991s) suggest that this technique provides a strong link with the process improvement methodologies.

4.4. Different Phases of BPR

The process of BPR can be explained as the following phases:

Phase I : Discover :This phase explains team selection reengineering projects and provides techniques for identifying areas of a business that are good candidates for reengineering. Assessment and setting the project scope will lead to candidate that offers excellent for improvement as well as realistic chances of implement.

Phase II : Prepare and Assessment

Preparation stage: In this stage, the project's target must be identified such as to reduce cost, to minimize cycle time or to eliminate defects. Moreover, executives need to understand the expectations and identify existing barriers such as cost or time that could obstruct reengineering efforts.

Assessment stage: For assessment, the root problem will be identified and to gain detailed understanding of the current process before choosing the right process and deciding on a possible course of action. Mapping and Flow-Chart of existing process will be very helpful. The scope and boundaries of process selected for reengineering must be clearly identified otherwise these processes will lead to an endless analysis.

Phase III : Innovate and Build

The methods and tools are combined in an evolutionary approach that is critical to successful reengineering.

Solution stage: Solution stage is about moving the reengineering efforts from concept to detailed design. There are two activities involve; Technical design and Social Design. During the technical design, information is consolidated, alternatives are redefined, process linkages are re-examined, and controls are relocated prior to applying technology. The social design focuses on human aspects and involves employees who will affect corporate changes.

Development stage: To develop and test about the integration of people, processes and technology and rollout plans. Reengineering team will develop pilot test strategies and set performance standards for the project teams. The senior managers must outline well-defined milestones and due dates for deliverables for all the development projects.

Phase IV : Transformation

To pilot test the new approach for monitoring the results and providing extensive retraining of employees. Top management support is critical in this stage. As reengineering efforts go forward it is important to define and redefine performance goal, maintain the strong commitment to the vision, break barriers between the departments, and be flexible as the business environment changes. Resources must also be committed to the training effort. The training should be seen as an ongoing endeavour. Reengineering causes organizational anxiety so we need to cope with the reaction of employees to the changes.

4.5. Critical success factors of BPR

From the historical data, the implementation of BPR has estimated that the unsuccessful rate could be from 50% to 70% which can consider as quite a high rate of failure. So to achieve the objective of BPR, we need to identify the key success factors before real implement. From many studies, the key success factors can be summarized into 5 main factors.

Change management systems & Culture factors. Implementing BPR is similarly to create the new company by restructuring the entire organization. Therefore, in order to implement BPR, the team must be able to manage the change, which includes the culture and the norm of the company.   Organization-wide ownership is the personnel at all level in the organization. The important group that takes effect form changing is the middle level which is called "Permafrost" (Willoch, 1993), the conflict to support the change of organization of different manager will arise. So company need to create the incentive and reward system and well train and give education to the employees for preparation in new culture. In addition, the empowerment is not a routine task then the collaborative is the important things. The better communication tools will support the collaborative to be more effectively.

Management competencies factors is the inner capabilities of the organization in term of management to be the important roles in BPR such as Senior Management Commitment and Sponsorship (Top-Down commitment) need to motivate and convince that the reengineering will be lead to the dramatically improvement with clearly defined and state and also let the people in the organization appreciate and accept the new task with time and step to succeed. Including with leadership, the company's executive management must be the chief of the BPR project who will take responsibilities and fight against obstacles to completely the project such as the resistant of by the employees and lead them to see the important of the BPR and also put the effort forward and demand within reason and a timely result. Moreover, the BPR create the risk to the company then the management by risk should be added.

Organizational structure factors. The management must assign their best forces to the reengineering team by well-defined roles and responsibilities who has knowledgeable about the business that will be reengineered, and in the other section they must assign the appropriate people participating full-time.

BPR projects management factors. The company need to set new vision from the BPR, the vision must be clearly define and understandable for everyone in the organization and also must be realistic for to achieve. Then create new strategy which match with the objective of BPR, the way to operate must be readjusted with the suitable processes. By new process, the company must create the tangible product such as improvement goal and missions, the new working process model, and an organization plan and plan model.

IT infrastructure factors. The information system is the most necessary tools and method to support the work of reengineering for new business. To be the effective tools, the company needs the good performance of IT staff to select, operate and maintain the new software

5. Conclusion

Several methodologies that have been discussing in this paper the authors hope that it will be sufficient support for the SMEs entrepreneur who wants to reengineer their business by following the above methodology. Based on the literatures review presented in this paper, we identify the research topics that have been researched as following:

- Brief explanations of the SMEs business in Thailand environment and the current situation.
- The lesson that why we need the BPR project.
- Definition and history of the Business processes reengineering (BPR).
- The normally BPR tools and technique.
- The different phase BPR implementation starting with the strategic and objective building to the last step which is BPR project approval.
- The critical success and failures factor that may occur during the BPR process.

Lastly, to remind that the SMEs have some special characteristics that BPR must be treat differently from another business so the slowing in reengineering process is better for implement cause of it can reducing the cost and time and the most important things is the lower risk that the SMEs entrepreneur may face. Another things that all of the BPR participate must carefully considered is the implementation of the information technology that can be double-edge sword which means it can give the higher benefit but in the same way the cost to acquired it may lead to the biggest lose so the decision to implement the IT should be more considering.

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