

Research on BPR Application Aiming at Synergizing Marketing and Operation Processes*

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Abstract This study reviews several issues which are critical to the success of business process engineering from a customer perspective. Based on a literature review of methodologies, tools and techniques, this paper presents an reengineering approach for SMEs in synergizing marketing and operation function and enhancing information flow efficiency between them. The authors present a case study in YC flyash industrial ltd. Which applies the approach

Key words Business R'rocess reengineering; Marketing.nformation; Co-operation

1 Introduction

When target existing processes that are not ideally suited to address evolving operational and market needs, resources are often wasted. Enterprises often pursue process redesign to overcome this problem. While driven by the increased levels of competition, changes in customers' needs, IT changes, and changes in regulation(Grover et al., 1993). Both externally and internally, BPR is becoming one of the hottest topics in the management field.

Hammer (1990) first presented the concept of BPR as "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." Meanwhile, Davenport and Short(1990) emphasized the inter-reaction between organizations when addressing BPR.

BPR is not intended to preserve the status quo, but to drastically change what is done. Thus, it is essential for a BPR effort to focus on outcomes rather than tasks, and the required outcome will determine the scope of the BPR exercise. As Schaffer and Thomson (1992) highlighted how focusing on results rather than just activities makes the difference between success and failure in change programmes.

Considering the goal and the primary aim of BPR, according to Vantrappen(1992) and Chang(1994) , is to redesign processes with regard to improving performance from the customer's perspective.

Scherr(1993) saw that the importance of customers was enough to warrant using them as a perspective point when examining core processes. Sheehy(1997) interprets BPR's purpose as finding new ways of adding value to customers. Without the customer focus, Sheehy(1997) argues, "reengineering pulls inevitably towards a cost cutting exercise, this emphasis eventually reengineering the customer out of the picture(p.7)". Hall et al.(1993) argues that for BPR be successful, redesign efforts must be concentrated on areas that have the most direct impact on customer value and cost.

Terziovski et al. (2002) found that the proactive implementation of BPR as part of the organisation's business strategy, coupled with focusing BPR efforts on core-customer business processes are the most significant predictors of BPR success.

Andrews and Stalick(1992) stated that to successfully implement reengineering projects, companies need to follow a systematic approach. Even at its lowest level, BPR has a top-down approach (Hammer and Champy, 1993). Therefore, most BPR performed as a project (Earl and Khan, 1994) . They typically consist of several discrete phases(Carr and Johansson, 1995).

Klein proposed a four-stage approach of preparation, identification, vision, solution, and transformation.

Furey (1993)emphasized the importance of starting the BPR with determining customer needs and setting goals.

Johansson et al. (1993) simplified BPR into three steps, namely, discover, redesign and realise.

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Despite the differences among these methodologies, they all confirm that some essential components must exist, such as: strategies, feasibility analysis, process analysis, understanding of customer requirements, etc.

Kettinger et al., based on a literature review of BPR methodologies, techniques and tools, put forward a hierarchical MTT map which relates techniques to BPR project stages and activities, and BPR software tools to techniques. Their framework consist stages of envision, initiate, diagnose, redesign, reconstruct and evaluate.

Cypress suggested the tools of operational method studies are ideally suited to the reengineering task, but that they are often neglected.

Kettinger et al. (1997) proposed that more user-friendly and media-rich tools are needed to enable non-technical personnel to use them in various BPR activities.

Taking into account the particular conditions of the industrial market in the Flyash trade market and the area-specific cultural aspects, this paper will try to present a set of analytical tools supporting a proposed methodology. An organisation is more likely to achieve greater profitability if reengineering is implemented in a proactive manner as part of an organisation's business strategy. (Terziovski et al. 2002) With the aim of synergizing marketing and operation function of the company, we would look at the performance of YC flyash company after re-engineering by sales volume change.

2 Implementation of BPR in Synergizing Marketing and Operation Processes Methodology

A proposed methodology for the implementation of customer-focused BPR and the evaluation of its results can be seen in Fig1.

Guimaraes and Bond (1996) stressed the devastating failure due to a lack of top management commitment. Thus, the starting point for a BPR project is the change of attitudes and culture, ensuring extensive communications and dealing with resistance to change from top and middle management. (Terziovski et al. 2002).

The introduction of customer-oriented suggestion would certainly affect the strategy decision from marketing level to company level. Additionally, this strategy decision would affect the way the company operates.

The second step of the methodology includes the initiation of the BPR project team with purposive goals. Professional project management skills and second hand information play a big part in this phrase.

In our proposed methodology, the third phase is supported by the use of operational field-research method and market analysis, giving the insight of the company's customer and their needs. In order to give a clear view of the problematic areas in operations, we would use job analysis from industrial engineering for observational results. Combing the two methods, we converge the problematic areas and business process improvement opportunities. The determination of these areas is achieved by analysing activities's inputs, outputs, controls and mechanisms. Every problematic area is connected with one or more improvement opportunities. With diagnosis of these problems, we move on to the next stage.

The fourth stage includes the design of the new system. The objectives of this step are the knowledge of new processes, the objects that participate in those occurrences, and the constraining relations that govern the behaviour of an occurrence.

With all the necessary information for the selection of the solution and the most suitable one for the company. Next, the new system is introduced. It has to be controlled and points of potential improvement must be identified according to the previous set goals of the project.

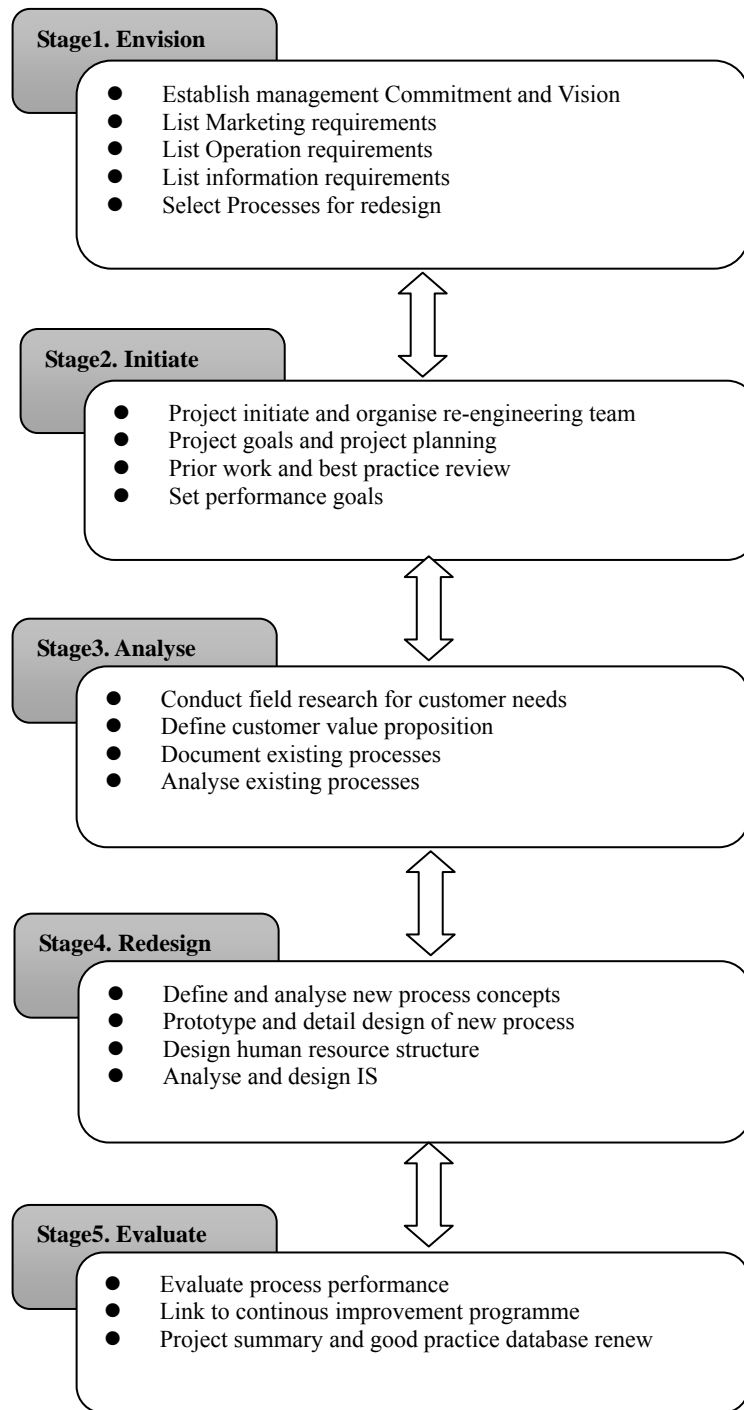


Figure 1 Process Redesign Methodology for Synergy Result

3 Case Study

The company under discussion was founded in 2002. Since then it is growing continuously and has been the market leader in flyash industry in Dongguan for years. The company's success is mainly due to its early penetration into the market and relationship building with both suppliers and customers. As flyash produced from power generation factory, YC transports the qualified flyash to its customers, which is the concrete batching plant. However, despite of the growing demand in housing industry, the sales of the company stays stagnant for the whole year of 2008. Even though the quality of the product remain the same, customers do not call for more orders. All these confront with our basic understanding of sensibility of organizational purchase. Therefore, YC was in need of initiating a customer-oriented

process reengineering in the aim of enhancing the synergy effect of marketing and operation.

Historical data reflecting the business results for the original system were obtained and analyzed. Findings regarded marketing and sales management, dispatch process, inventory management and human resource management were discussed with company's management board. Based upon these reviews with management collected data, we made comparison with initial datas after the production system was modified to reflect the recommended improvements.

3.1 Process representation

To obtain an establishment of management's commitment and vision on the project, focus groups and in-depth interview were made with the participation of the company managers. After the thorough communication of the importance and foresee performance enhancement, YC top management initiated a special team with us being the primary researcher. The Business research conducted at YC flyash company falls under the category of applied research. Using server investigation of YC's customers for the insight of market and structured observational form for the process problem.

The company's operations consist of several departments including sales and customer satisfaction, purchasing, quality control, inventory and most importantly, dispatcher who is in charge of scheduling of the product delivered from flyash provider(power generation factory) to the customer(concrete batching plant).

The production process starts at the sales and customer satisfaction department where contracts are signed during sales visit. Figure2 illustrates the production process in further details. Orders are received by dispatchers, who then schedule the course and destination of flyash tank truck. During peak season, Orders are classified as priority or regular. While first class customers were guaranteed delivery of the product, other customers may turn to other flyash suppliers for lower quality products due to the lack of supplies. After the delivery of flyash reach the customers, their own quality control will categorized the product and decide whether to accept the delivery or not. When the delivery service is finished, the sales would confirm with the dispatcher on the final sales. After the sales process, invoices are sent to finance department. Little communication is made among departments.

YC compnay has to face with fluctuate demand and fixed supply and makes inventory tougher for management to perform. As a result, instead of holding a 60% market share, the compnay's actual market share is only 27.4%. And there's a communication gap between marketing and dispatcher operations which also leads to information gap between the company and the customers.

The analysis of the marketing and operation process, leading to the identification of high importance areas, the definition of the future strategy and the decision of the BPR project initiation including identification of processes to be re-engineered. The top management decided to enhance the marketing function thus changing the marketing strategy in providing value to their customers.

Sales from the company apprantly lack of marketing research training, and their routine work is more like publicity rather than marketing since the company only has one area related. Their decision is mostly based on intuition without ground field research, which always leads to mistaken decision and failure to customer satisfaction. While industrial products share similar quality and values, YC company needs to obtain added-value and present this customer oriented value to their target segment which they not yet differentiated.

The primary problems of marketing and operation processes are:

The company lacks of customer information due to an inadequate market research.

When market enviornment and customer needs change, their response to the market is far from satisfactory; Their product or value delivered would fail to the target customer.

Orders request made by customers makes the company in a passive position of supply chain. Thus, the current marketing system has a delayed response on product delivery.

Because the delivery decision is largely based on instant customer orders, many orders have been delivered late or even canceled due to a decrease in customer satisfaction and competitive price cut from competitors.

Customers unsensitive to the quality change or cancel their order from time to time.

Dispatchers' scheduling or waiting-line management is made by experience without scientific or concrete foundation.

No direct information flows is made between sales and dispatcher. Sales had no incentive to acquire order information but only wait for the feedback from dispatchers.

Without material planning management, inventory is facing flucturate demand which leads to delay or cancel of transportation service.

3.2 Process Redesign

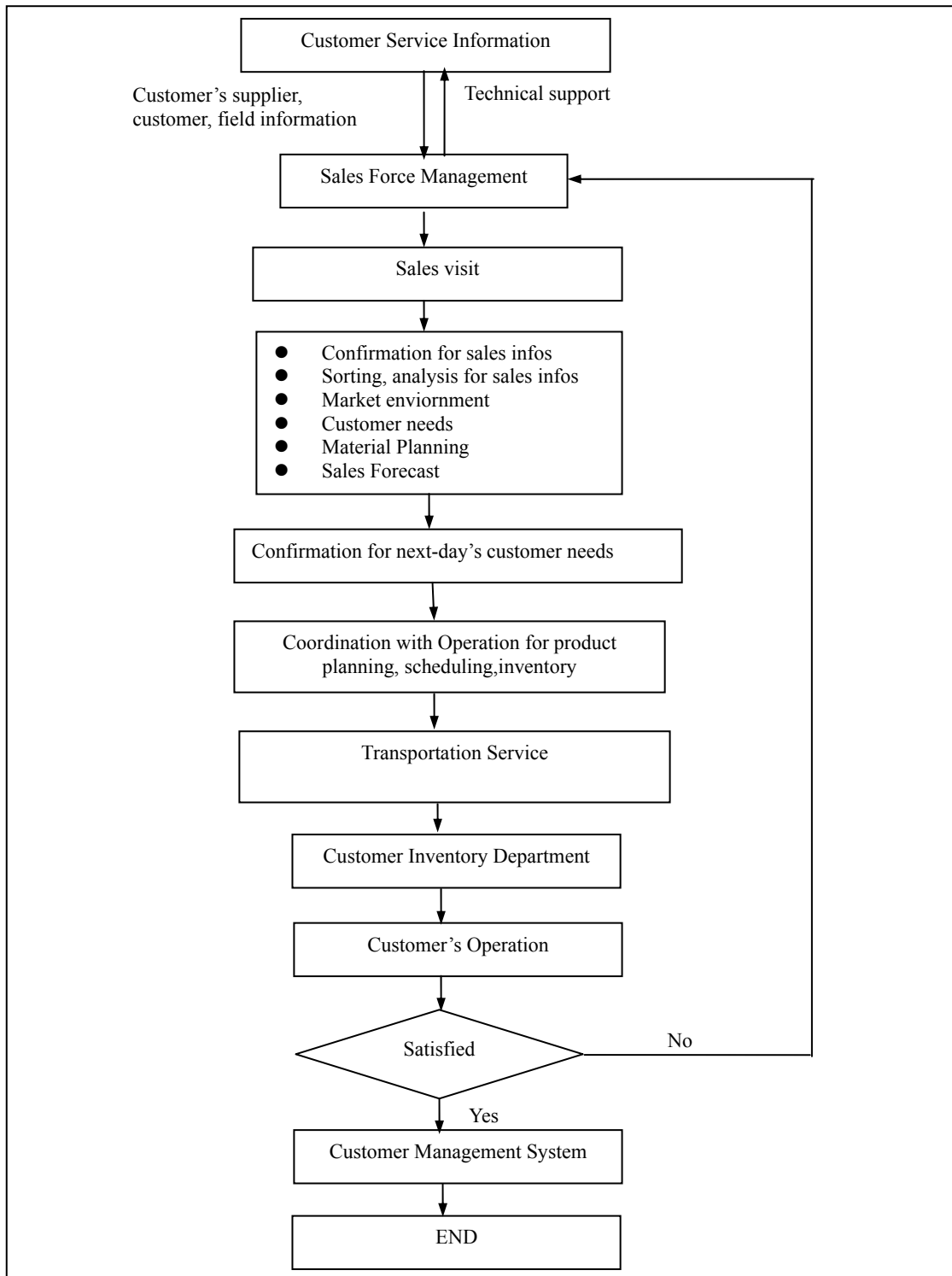


Figure 2. Modified Marketing and Operation System

Traditional business reengineering focus on lowering cost and enhancing efficiency. The objective of the modified system is to link the production process to customer demands and to enable the company to meet demand with competitive products and services.

The modified system will be more customer oriented linking production to customer demands with

products more satisfied to their needs. Sales and marketing becomes the link between management and operation, operation and customer.

The improved system adds supplier and customer information to the current system. Market Research requires the sales effort since they are the closest to the market to obtain information such as the market environment, construction industry dynamics and customer needs analysis. With these market information, sales forecast can be made more accurately.

We also recommended the sales making calls to customers for next day's material plan, with which can enhance the performance of dispatch operation on their delivery scheduling.

But most importantly, by careful market research we distinguished a market segment which is highly sensitive to the quality of product and possesses a huge need for the technical support of how to make the best mix of their supply material. These findings shed light on our product and service which was once regarded as the same with other flyash traders. YC company change their marketing strategy and focus on providing added-value product to their customers, that is, the company educated their customers on technical issues on mixing experiments. Therefore, the company differentiated customers and categorized them into groups to which provide different product mix.

As Fig2. shows, now the redesign process enable a sharing of information between marketing and operation. When customers of YC initiated their material planning, they inform YC's marketing of information on their supplier, customer, material needs, etc. Marketing makes sales forecast according to the information and make feedback to operation. Then, a day earlier than before reengineering, operation of YC can do the planning, scheduling and inventory. When transportation service is made, YC's customer's inventory department will receive the product and feedback to their operation. Sales need to make frequent visit to see if their customers are satisfied.

Based on the findings of the envision and design phases, the implementation of the solution was determined. YC company would build a lab for experiments in which testing of best proportion of cement is held out. While the company provide its customers with distinguished technical service which satisfy their needs for professional knowledge. It would be suggested a cycle for paying visits to their customers for better insights of their needs.

4 Evaluation and Summary

Instead of a lack of communication flow between marketing and operation, the new process enable marketing and sales to get the insight of customer. Since the material planning information is obtained a day ahead, dispatchers can scientifically plan the schedule of transportation trucks which reduces the chance of running out of service.

Table 1 Performance of Sales Volume after Re-engineering

concrete batching plant	Numbers of batching trucks	Sales of batching materials(m ²)	Flyash demand(ton/month)	Before	After
				Reengineering (truck numbers)	Reengineering (truck numbers)
JUNYU	25	≥40,000	4,000	48	80
SHENGYUAN	20	≥30,000	3,000	34	60
JUNYE	45	≥70,000	7,000	84	140
DONGCHANG	45	≥70,000	7,000	27	140
DONGTIAN	53	79,500	7,950	28	159
HENGDA	84	30,000	3,000	49	60

By the time the company was running through the new process with unqualified staffs cut down, a sales volume was observed and recorded. With modification of the system, YC flyash company changed their marketing strategies and adjusted their marketing mix according to their customers' needs. The company succeeded in increasing their sales volume by 125%, from 1000tons/day to 2250 tons/day on average.

5 Conclusion and Recommendation

The implication of these results is that managers must reengineer their core processes from a customer perspective. Aiming at synergizing marketing and operation, the paper concludes that the key challenges for successful BPR implementation are changing attitudes and culture, ensuring extensive communications and dealing with resistance to change from middle management. A failure to reengineer from a customer perspective has been blamed for disappointing BPR results.

Being lack of experience in professional knowledge and resources, YC flyash company would not use the high technology for the time being, yet which still fit the three important issues addressed by Klein(1994) in selecting a BPR tool: ease of learning and use, ability to integrate the tool with other tools and to move data between them easily, and the fit between cost and benefits of the tool for the BPR project.

We combined synthesis presentation for the comprehension of the business process to staffs at YC flyash company, aiming their understanding of the whole redesign process. The charts, photos, stories used made them see clearly what should be done, what was being done and what would be done. As a result, staffs felt less reluctant to the drastic change at hand and more open to give out useful information. With information sharing, co-operation becomes more close between Marketing and Operation, the company and its customers, which prompts YC to be more responsive in the insight of market.

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