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## OUTSOURCING THROUGH BPR AND SCOR AT RHODIA

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**Abstract:** Reorganizing business processes (BPR) and outsourcing are two distinct concepts. The first concerns the organization optimization through process improvement, the second relates to the dislocation of internal activities outside of the company. The SCOR-model constitutes a reference standard addressing BPR through common terms and definitions for processes, performance indicators, best practices, and benchmarking. This paper addresses how organizational change as well as internal and external collaboration has been possible through BPR and SCOR in the context of outsourcing at Rhodia SA, an international group for specialty chemicals. *Copyright © 2002 IFAC*

**Keywords:** business process reengineering, SCOR, outsourcing.

### 1. INTRODUCTION

Business environment has changed in the past decades and is more complex and unforeseeable than ever. Cultural and socio-economic changes have been favored by new information and communication technologies and new relationships within and between organizations.

The concept of business process reengineering (BPR) appeared in the 90s aiming at decompartmentalizing company departments, services, and functions in order to end existing silo organization and to establish integrated and transverse organizations (Kramer and Tyler, 1995). BPR supposes the interdependency of company services and functions and looks for reaching significant improvement in critical performance measures (Mentzer, 1999). Literature witnesses this phenomenon and several books confirm this tendency (Hammer and Champy, 1993), (Davenport, 1993). BPR is a process approach that concerns internal modifications of the company organization in order to attain better internal collaboration within the organization.

BPR interests us in today's context of industries transferring internal functions and services to external companies, which are considered as experts in the activities to be outsourced. Outsourcing is an approach which, on one hand, targets the concentration of the company on its key competencies and, on the other hand, the economies of scale (Abdel-Malek and al., 2004). Companies that outsource a part of their activities aim at establishing partnerships and privileged alliances, looking thus for better external collaboration.

BPR can be adapted to outsourcing with, besides internal company collaboration, a strong external collaboration with the partner company that are selected for its outsourced activities.

### 2. HOW DO BPR AND SCOR WORK

The transition of the company organization for more integration between company functions and services has had as consequence the emergence of BPR. It means the reorganization of the company

organization in order to transform it from a vertical silo organization, with independent functions and services, into a horizontal organization that is based on transverse processes.

Reorganizing the company organization according to its processes consequently requires to rethink them. One needs a good sense of processes that allows BPR through the following four points (Frias, 2002):

- § Getting back to the basics: It is necessary to ask the right questions concerning the fundamental needs of the company, the essential information it should dispose, the fundamental relations for optimized planning, etc.
- § Taking into account the different actors: All actors that are concerned by the process reorganization have to be concentrated on. They need to be implied in the BPR effort.
- § Integration of all hierarchical levels: In order to redesign processes, the managers but also the actors of lower hierarchical levels have to be involved in the BPR effort. All hierarchical levels are concerned and should become the owner of the changing company organization.
- § Having the sense of responsibilities: BPR is not only done for a better control of the company processes but also to establish a structure helping to locate the diverse responsibilities within the processes.

By leaning on the notions of processes, process owners, team work, and decision making, BPR reflects a horizontal view of the organization because it does not insist on company hierarchy.

### 2.1 BPR through the SCOR-model

The difficulty of the process implementation does not only lie in the complexity of its realization and execution, but also in the conducting of transverse change. In order to create a mutually accepted and common understanding, one needs to talk the same language.

The SCOR-model (Supply Chain Operations Reference-model), that was developed by the Chain Council, is a recognized international standard and a process diagnosis and conception tool, which addresses as well processes, as performance measure, and best practices.

In order to combine the strategy of the company with the supply chain, the SCOR-model is built according to a top-down approach, and proposes process modelling through common terms and definitions for processes and predefined measures for supply chain performance. As shown in figure 1 this model describes five main integrated management processes of any supply chain: Plan (planning), Source (procurement), Make (production), Deliver (delivery),

and Return (area of post-delivery customer support) according to three levels of detail (strategic, tactical and operational level).

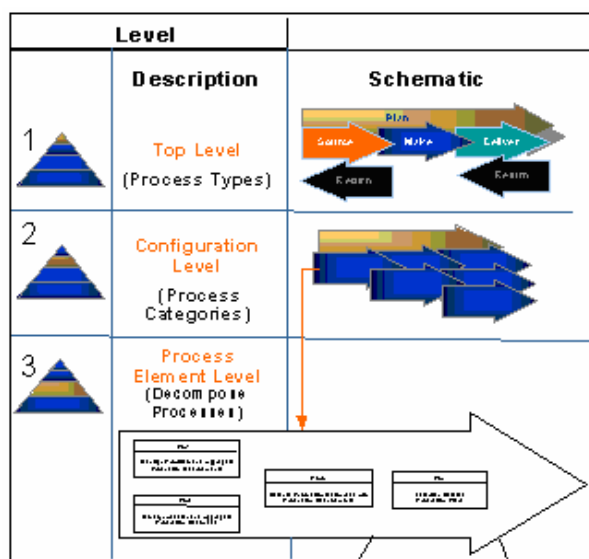


Fig. 1. SCOR-model

SCOR being considered as a process guide that includes performance indicators, best practices, and benchmark information, processes are analyzed through three modelling stages: the SCOR process charts are used for the process description and visualization; the model common notations and definitions help to measure supply chain performance and get to the desired process situation; and thus the final process description and validation.

First, the existing process flow is described in an “as is” situation and compared with the flow proposed by SCOR. Thus SCOR allows determining all barriers in the process structure and its actual fluidity bottlenecks. Then, the SCOR inputs, outputs, and sub-processes are implemented in the “as is” process in order to compare all data and put forward optimization opportunities in the process. As SCOR defines measurement of the internal and external process performance, that are called metrics, the company can check and compare those with the existing ones and analyze their performance. In order to realize the “to be” status of the new process, action plans have to be determined. At this stage of the process analysis, SCOR proposes a useful tool: the best practices (BP). They aim at evaluating the process maturity and help defining the necessary actions for optimizing the process in the best possible way. The last step is then to describe the “to be” process and communicate the optimized and fluid process.

To sum up, BPR can be done through the SCOR-model because it describes an ideal process state, which can be reached or adapted through an “as is” process analysis and reorganization of that process. Hence, the company attains, regarding to its own strategy, the “to be” process thanks to a comparison and analysis of its actual processes with the processes

proposed by SCOR. The model thus helps structuring the process redesign as well as the interactions between the individuals in charge of the sub-processes and other multiple tasks within the process.

### 3. HOW DOES OUTSOURCING WORK

Outsourcing consists in the relocation of an internal company activity to a third party. This reminds of sub-contracting, which is also the transfer of a certain activity outside the company. However, those two terms are not equivalent because sub-contracting induces a subordinate relationship between the sub-contracting company and the sub-contractor, whereas outsourcing implies a close partnership with a service provider (Bossuet and al., 1997).

According to (Baden-Fuller and al., 2000) a company can outsource any activity when facing the four following elements concerning its socio-economic environment (changing customer demand) and technologic environment (used technology):

- § Catching-up with competitors: despite a stable environment the company has fallen behind its competitors
- § Changing supply chain: the company has to respond to the changing needs of its customers
- § Technology evolution: core company activities are overrun because of new and better performing technology, to which the company has no access
- § Emerging markets: new markets are accessible to the company in consequence of rapid technology and customer requirement change

According to (O'Neill and Sohal, 1999) outsourcing can be considered as a by-product of BPR because their objectives are similar: facilitating the alliance between market opportunities and the company's capacities to insure its growth.

#### 3.1 Outsourcing through BPR and SCOR

Companies aim at increasing their reactivity and flexibility, at being more efficient and innovative, and at reducing considerably their costs (Palvia, 1995), (Lacity and Hirschheim, 1993). The financial weight of the necessary investments to respond to this stake is often too big to be supported by the company alone. That's why outsourcing seems to be a means for many companies to focus on their core competencies, and to make economies of scale and required optimizations that are necessary for its survival.

Outsourcing a company activity is not simple and requires foremost the right identification of which activity to externalize. If this is not done correctly outsourcing comes inevitably to the losing of

company know-how and it risks to loose competitive advantage. However, if outsourcing is done correctly and the right activity to be outsourced is determined, the company can make profit and refocus on its core competencies, thus keeping and gaining competitive advantage.

As noticed earlier in this paper, BPR and the SCOR-model suppose the description and analysis of actual processes in order to understand them and transform them into redesigned processes with better performance. Through BPR and SCOR, companies try to release financial resources, reduce costs, lighten the company management, and improve global performance. Hence, BPR and SCOR are close to the concept of outsourcing, because the latter also supposes the restructuring of the company organization by relocating a part of its activities outside the company in order to lighten and reduce costs.

Relying on the elements above, outsourcing can be done thanks to BPR and partly with the help of the SCOR-model by answering to the two following questions: What to outsource, How to outsource.

However, first and as shown in figure 2, in order to decide whether outsourcing is the right decision for the company, it has to analyze its industrial environment as well as its resource and competency needs (Diridollou and Vincent, 1997).

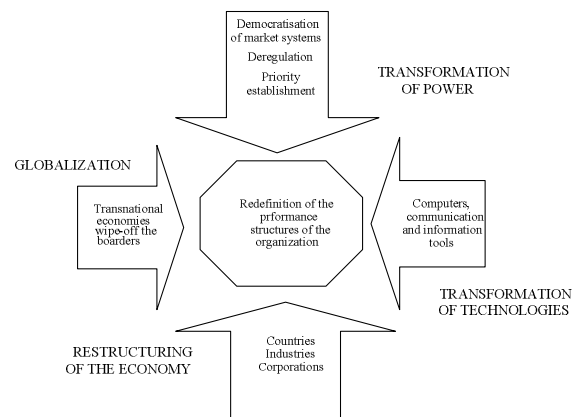


Fig. 2. Why to outsource – industrial environmental issue

Then the company needs to decide what activity to outsource before selecting the future outsourcing partner. Therefore it has to determine the requirements and specifications that the external service provider must have in order to be considered as a potential partner, doing better in the outsourced domain than the company itself. Outsourcing contracts also have to be determined before choosing the outsourcing partner.

Indeed, the "why" and the "what" of the outsourcing effort address the decision making of the outsourcing of a company activity. However, the "how" of the outsourcing effort concerns the deployment of the outsourcing operation, and thus the redesign of the outsourced activity.

Within the framework of outsourcing, as well SCOR as BPR constitute useful tools to help the company identifying and determining the activities to outsource, and to deploy an outsourcing effort in an optimal way.

#### 4. BPR AND SCOR IN THE CONTEXT OF OUTSOURCING: RHODIA CASE STUDY

Our research study has emerged from a specific industrial need. The company Rhodia SA, an international group for specialty chemicals, faces major issues concerning its world wide production sites concerning their process and tool heterogeneity as well as an important load of assets and related direct and indirect costs. Rhodia develops a large range of technological innovations for four different industries: pharmaceuticals and agricultural chemistry, food and consumer goods, industry and services, automotive, and electronics and fibers. The group counts on crossing chemical and technological expertise for innovative products, in order to establish narrow relationships with customers and partners, and to attain and keep competitive advantage on the above-mentioned markets. Thus the following questions need an answer: How can one improve and pilot the intra-and inter company process organization, and assure the consistency and durability of the implied activities in the context of important competitive pressure and the objective of realigning the activity portfolio? How is this possible regarding the groups' activity and process outsourcing intention?

Our case study pursues this effort by focusing on the process organization and reorganization (BPR) with the help of the SCOR-model in the framework of outsourcing.

##### 4.1 Why to outsource at Rhodia

Concerning Rhodia's logistics and notably its delivery process and management, the company is confronted with deregulation that changes the nature of transport industry as well as with growing customer demand for a constant improvement of logistics. Hence, two issues originate in the questioning of the outsourcing possibility and necessity of a part of the groups' logistics: absence of the necessary know-how at the right time as well as the need for more resources, and the drifting of exploitation cost.

A logistics outsourcing project, called LOGO (LOGistics Optimization), was launched by the group in 2004 and aims at addressing these issues through three elements that constitute potential gain sources: process analysis and reengineering, better operational management in logistics service offices and staff reorganization and optimization.

##### 4.2 What to outsource at Rhodia

Not having the appropriate logistical resources to assure transports and the necessary related investments, Rhodia's objective was to outsource a part of its logistics in order to obtain, in addition to optimized transport service, more substantial logistics services from the chosen service provider. Thus, the group looked for a veritable partnership by reorganizing its logistics operations. The existing delivery process had to be reviewed, its performance measured, and outsourcing costs evaluated to encourage innovation and the establishment of value-added activities for growing know-how and respective competitiveness.

The decision making about what part of the delivery process to outsource was done with the help of the SCOR-model. To identify the activities, which potentially presented risks concerning feasibility, confidentiality reactivity, etc. the model's delivery process and all tasks, which were likely to be outsourced, were identified and analysed (Fig. 3).

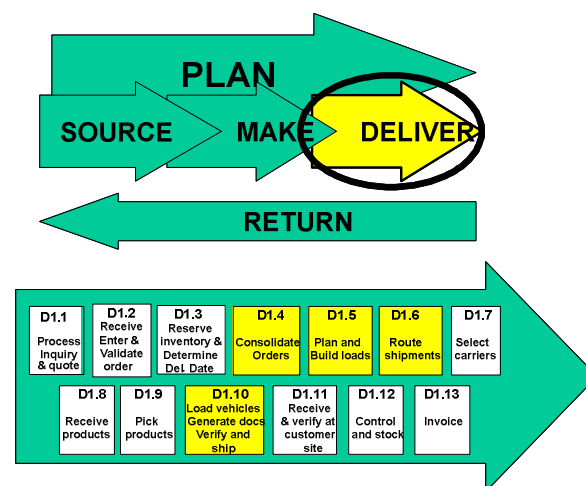


Fig. 3. What to outsource – SCOR delivery process

All 13 tasks of the delivery process were analyzed in detail. For example, the first two tasks (D1.1 and D1.2), concern inquiry and order processing as well as validation. It was determined that they constitute a confidentiality issue for the company because the outsourcing partner would have access to production and sales prices of Rhodia in the information system. As for the task D1.3 for instance, which concerns the allocation of the products to specific orders, the inventory reservation, and the determining of the delivery date, it also has been decided to stay an internal task because it would give access to the company's inventory levels, an information that the group did not want to reveal.

Out of all tasks, only four (D1.4 to D1.6 and D1.10) of them have been determined as non confidential, and thus possible to be outsourced. D1.4 to D1.6 address order chartering, loading planning, and shipping management. These tasks do not imply any confidentiality issue for competitive advantage. The

same is true for the task D1.10, the transport documentation management, which does not represent any particular problem for outsourcing. The LOGO project management team thus decided to deploy the outsourcing effort on the activities related to the chartering process.

During the phase of decision making of what activity to outsource, SCOR has been an essential help because the project scope could easily be marked off to only the activities possible to be outsourced and not representing any confidentiality issue for the group.

### 4.3 How to outsource at Rhodia

The objective of the LOGO project being the outsourcing of four tasks of the SCOR delivery process, BPR was used in the following way:

- § “As is” description and analysis: Detailed analysis of the delivery process as well as the activities and tasks related to the product chartering process, FTE (full time employed) assessment concerning the time schedule and the number of actors that are necessary within the process to be outsourced, validation of the tasks to outsource
- § “To be” description and analysis: Meeting with the selected outsourcing partners and presentation of the “as is”, proposal of the “to be” chartering process, BPR effort through teamwork, etc.
- § “Go live” of the chartering process: setting up and management of the outsourcing effort, training of the concerned actors and their back-ups, etc.

The first point, mentioned above, concerned the description and analysis of the actual chartering process and allowed us to reveal dysfunctions impacting the fluidity of this process. For example, there were system problems because of manual interventions. The latter concerned manual product allocation, which led to wrong information being used downstream the process (chartering with wrong delivery dates, product preparing and packaging at the wrong place and time, mislead transport documentation, etc.). The chartering confirmation was done by phone, instead passing through the system that sends an automatic confirmation to all concerned actors, led to bad information for these actors (wrong loading information for the freight forwarder, wrong shipping date information for the actors in charge of product preparing and packaging, etc.). After a dysfunction listing in the « as is » process, the time assessment was concentrated on concerning the operational execution of all the tasks involved in the process in order to evaluate the time schedule for each actor, to assess the time impact on the outsourced tasks, and to determine the number of needed actors for those tasks. At the same time, within the group Rhodia human resource negotiations

took place to appoint the actors, which would be transferred to the chosen outsourcing partners. The outsourcing contracts binding Rhodia and the outsourcing partners were also put in place. Furthermore, the outsourcing partners met their new employees, and by implicating all actors, concerned by the chartering process, in the outsourcing deployment, a climate of collegiate partnership was created, and a certain trust between the different actors was thus established.

As for the « to be » process description and analysis, regular meetings with the selected outsourcing partners allowed us to define and validate the accuracy of our evaluations, to track all process optimization opportunities, and to validate and reorganize the tasks to be outsourced in a consistent new process. Performance measurement of the process was necessary to evaluate the outsourcing effort on the chartering process. Thus, a certain number of performance indicators (number of late chartering, optimization opportunities put in place successfully, spot orders, urgent orders, ratio between manual and automatic transactions in the system, etc.) allowed us to establish a dysfunction grid, which captured the main process bottlenecks concerning the:

- § Orders: wrong or incomplete orders, extra charge for loading and unloading waiting times, etc.
- § Production site: wrong order processing, chartering canceling, extra charge for incomplete documentation, labeling, etc
- § Force majeure: chartering canceling, damaged products, strike, etc.

Thus, an optimized process was successfully described and the necessary action plans (updating of certain system parameters, etc.) put in place in order to attain the desired “to be” process.

A certain number of tools to keep track of all elements of the outsourcing effort (process description documents, operation modes and functionalities, system parameter changes, staff- and back-up training, etc.) have been used by the LOGO project team and the selected outsourcing partners. There was for example the “thermometer” (Fig. 4) that helped us with that task.

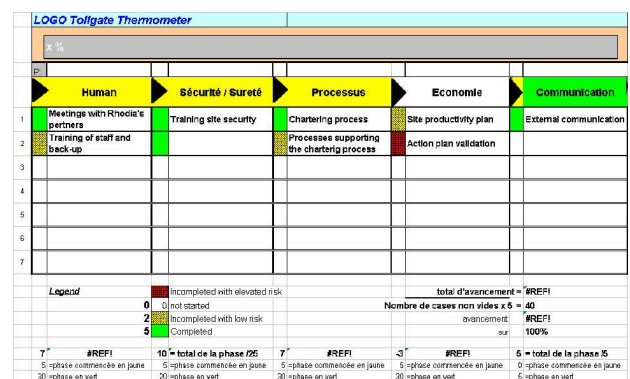


Fig. 4. How to outsource – LOGO deployment thermometer

Thanks to this kind of tool, all crucial information (administrative documents management, staff and back-up training concerning the process flow, the regulation of dangerous products, the information system, etc.), which was necessary for the optimized “to be” process flow, was taken into account. Once the new process described and the staff trained for the new chartering process, a regular follow-up took place thanks to monthly meetings between the LOGO deployment team and the outsourcing partners, and helped to review the process measurement and flow to finally decide for the “go live” of the process, which represented the end of the outsourcing effort of Rhodia’s chartering process.

The project LOGO impacted the group’s strategy of sustainable development on three levels:

- § Environmental objectives of reducing waiting times, lorry loading optimization, and synergy optimization of inter-production site transports have been attained.
- § From a social point of view, 12 job suppressions have been avoided thanks to the project.
- § As for the economic dimension, the chartering process has been divided into four transport modes for three external logistics service providers, representing about 90% of the transport costs of the group. The project objectives of reducing downstream logistics costs as well as optimizing transport costs have been attained allowing an annual gain evaluated at 30% of the groups costs.

#### 4. CONCLUSION

A company should not embark on an outsourcing project without having profoundly thought about the reasons and possible obstacles concerning the company and process reorganization that is therefore necessary. The approach proposed for an outsourcing effort (“why” - “what” – “how”) addresses as well the decision making for outsourcing a company activity as well as the operational deployment of that effort and can be applied to any type of company, which describes its functions and services through transverse processes.

The company first has to clarify and analyze the reasons for outsourcing in respect to its industrial environment and its own needs and requirements to keep and attain competitive advantage. Then the decision about which internal activity to outsource has to be taken. At that stage of the outsourcing effort, the SCOR-model is helpful in the identification of the process tasks that the company can outsource

without any risk of confidentiality or know-how loosing. Finally, the company executes the outsourcing effort through the redesign of the tasks to be outsourced and describes in a new and optimized process. In this task, both SCOR and BPR are helpful because SCOR allows to recognize the tasks, that are likely to be outsourced or not, and proposes performance measures as well as best practices that facilitate the BPR, which allows to describe and establish the new outsourced process.

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