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## **SUPPLY CHAIN MANAGEMENT IMPROVEMENT PROJECT**

### **1. Introduction**

Supply chain proficiency guarantees sustainable competitive advantage of a company and its partners. However, gaining expertise in supply chain management is a long term process, which cannot be completed within a few months. It takes rather years, and necessitates complex project(s) implementation. Below the proposed procedure of supply chain management improvement project (**SCMIP**) is described.

### **2. SCMIP Cycle**

Supply chain management improvement project undergoes a classical project management cycle. First, **the idea** of supply chain improvement is **conceived**. Second, the **detailed analysis** of current state is to be completed. Third, **SCM strategy** and **improvement projects** should be **developed**. The above should be accompanied by the system of matrixes, which facilitate a monitoring process. Third, the **projects** (and implicitly the strategy) are to be **implemented**, monitored and controlled.

Below each stage of the cycle is briefly described. Additionally, the attention is drawn to organizational and financial issues.

### **3. Idea**

The decision to commence SCMIP are triggered by various reasons:

- deteriorating competitive position of the company;
- high logistics costs;
- newly hired managers seeking for improvements;
- new product launch;
- new market entrance (especially international growth);

- sector trends toward supply chain management;
- pressure from suppliers/customers to implement supply chain project.

In other words, the supply chain improvement project is launched only if the company decision makers believe that such a complex initiative will produce tangible effects: superior customer service (turnover increase) and/or costs reduction. This means, that rough calculations regarding project implementation costs and its expected effects are to be performed. It is highly advisable to prepare such calculations internally without using external experts. A basic analysis of company balance (especially logistic and marketing costs, along with turnovers) as well as business processes (and the most visible, urgent problems concerning their planning, coordination, execution and controlling) should suffice. Obviously a company might decide to hire external experts, but it should be aware that information and conclusions provided by consultants will be probably biased (positive effects of improvement project they predict will be exaggerated), as they are interested in extending services they render for more detailed analysis, improvement concepts and implementation.

It is beyond any question that rough project efficiency calculation has to be preceded by defining the scope of the project. It is naturally advisable to cover the entire supply chain by the project (to get the right picture of the whole supply chain which should be treated as an integrated system as well as to discount potential SCM synergies), however comprehensive SCMIP is a very complex, time and money consuming initiative, hence produces (too) many organizational effort and implementation risks. Considering the above facts, narrower projects promise relatively shorter and easier implementation and positive effects produced in a short run, however the latter will be probably not so significant compared to a comprehensive improvement project.

Accordingly, every single company has to balance willingness to devote resources time to the project (costs) against expected results and connected to them project risks. What the authors advocate is to prepare general supply chain strategy, which in turn should be regarded as a tenet for more detailed supply chain management improvement initiative, be comprehensive or process focused on a certain supply chain area.

## **4. Analysis**

### **4.1. Analysis of company strategy**

It is hardly impossible to efficiently develop and successfully implement any improvement project without comprehensive knowledge and understanding of the company's strategy. Standard (supply chain) management methods and techniques advertised (by consultancies) as a cure for every organizational illness do not exist. Every improvement project is to be crafted for a specific situation and goals of a

company. What is more, supply chain decisions are in fact undertaken during the process of formulating strategies of a company at each level: corporate, competitive as well as functional. Without the necessary knowledge on these elements of strategy probability of supply chain improvement, a project decreases significantly. In the box below three levels of company strategy and their links with supply chain management are briefly described.

**The corporate strategy** concerns the directions and dynamics of company development. One of growth direction here is the scope of company's vertical integration (links with suppliers and customers), which directly affects relations within company's SCM (relations – mostly partnership – with other supply chain members are a crucial element of SCM). What is more, within corporate strategy decision makers also choose the paths of development (issue closely related to vertical integration concept): capital or contractual. The latter path reflects the will of the company's top management towards supply chain management initiatives.

The second level – **competitive strategy** consists mostly of answers to the following questions: should the company compete (or maybe avoid competition, eventually cooperate)? If so, where (which markets or segments) with whom and how to compete (cooperate)? Decisions concerning relations with rivals (competition, avoidance or cooperation) influence horizontal relations within supply chain. Decisions regarding the diversification of the relations (answering the question where to compete, avoid or cooperate) across sectors, market segments or niches make foundations for unique supply chains for different markets/ products. Last but not least, decisions concerning the sources of competitive advantage (answering the question how to compete) directly shape the philosophy of material and information flows throughout the supply chain. There are two traditional (basic) sources of competitive advantage: cost and quality. In case of cost approach lean management initiatives should be advocated. In the second instance other approaches, like agile management, promise better results. Next to basic ones, there are also other sources of competitive advantage: time-based competition, unique processes, key competences, virtual company etc. They also influence the supply chain flow. Let us take time – based competition. Here rapid reaction to the changing, unique, hence unpredictable needs of final customer usually justifies inventories of (almost) finished goods – which is unaccepted within lean management. Really an interesting source of competitive advantage, from SCM perspective, is a virtual organization, defined as a situation under which a company (focal company) choose the coalition of close partners (suppliers and customers) and crafts the rules of cooperation (partnership) within the net, in order to get the competitive advantage. According to this approach supply chain management itself is a source of competitive advantage. In sectors where SCM plays an important role as the key competence supply chains not single companies compete against each other.

At the bottom level, **functional strategies** (also called functional programmes) are developed. They are indispensable to “translate” the competitive strategy into

activities undertaken across various functions (e.g. operations, marketing, finances, HR). Obviously supply chain processes cut across basic company functions, hence functional programmes describe in a relatively detailed manner the flow of goods and information at different levels of the company value chain (i.e. inbound logistics, operations, outbound logistics, marketing and sales, customer service).

#### **4.2. Logistic system analysis**

Considering the fact that any supply chain strategy improvement project necessitates the proficient logistic system of a company, logistic system analysis tends to be an indispensable step. The main goal of such an analysis is an assessment of efficiency and effectiveness of logistic flows, i.e. material and information flows within the logistic system, its integration as well as its interactions with other departments (functions) like marketing, operations or finances.

Logistic system analysis usually takes a form of focused interviews accompanied by the analysis of main logistic information generated from ERP systems (logistic costs, inventory levels, turnovers etc.).

During the analysis the following issues are examined:

- the role of logistics in achieving strategic goals.
- logistics in organizational structures (is the logistic function centralized, or the logistic decisions and actions are scattered across the company?),
- the level of logistic knowledge and awareness among employees,
- planning, coordinating, controlling and the realization of chosen logistic processes:
  - demand predicting;
  - production control;
  - purchasing and suppliers relationship management;
  - warehousing;
  - inventory management;
  - transport;
  - distribution and customer service;
  - reverse logistics.
- iT system,
- accounting system.

#### **4.3. SCM processes analysis**

At the next step the supply chain management processes should be analyzed. In other words, the focus here is on activities that compose processes, but not on people or organizational elements that perform the processes. Two points are of great importance: the identification of supply chain processes and the tool facilitating their examination. There is not a universally accepted view on the standard set of supply chain management processes. In fact, the undertaken research proves that

companies identifies unique sets of SCM processes. In other words various companies use different languages. As SCM is inter-organizational initiative, “Esperanto” is needed here, so that partners could understand each other. SCOR model (and its extensions – DCOR, CCOR), elaborated by Supply Chain Council, provides a universal SCM process typology as well as the universal tool for their analysis. According to SCOR model there are 5 main types of major (the top level) processes: plan, buy, make, deliver and return. As the SCOR has hierarchical structure, the basic processes are broken down into more detailed categories. Each process is precisely described, additionally the best practices and matrixes are provided. Hence, SCOR seems to be a very good approach to picture as is supply chain management processes.

## 5. Planning

### 5.1. Supply chain strategy formulation

Based on the conducted analysis, the SCMIP team has to formulate supply chain strategy, which should be followed by the identification of supply chain management improvement projects. As pointed above supply chain strategy stands for a “lighthouse” to SCMIP’s. The crucial question here is: what supply chain strategy is? Some says it is functional, multifunctional or multi-organizational strategy. Other advocated that SCM strategy focuses on the logic of controlling materials/information flows across the supply chain (push vs. pull approach). The authors believe that SCM strategy is a set of interrelated strategic decisions that fall neatly into three categories:

#### I. Partnering decisions:

Relations decisions (stemming directly from development and competitive strategy issues):

- the level of virtual integration across and within various sector of suppliers and customers;
- bargaining power (control) vs. market relations (competition) vs. partner-like relations across and within various sectors and segments.

II. Structural decisions (concerning supply chain horizontal and vertical structure):

- number, location, capacity of supply chain nodes (factories, warehouses, retail outlets etc.);
- products dispersion between existing capacities.

#### III. Coordination decisions:

- replenishment trigger (forecast vs. real demand);
- inventory deployment across supply chain.

Listed above three groups of decisions should obviously be coordinated supporting the realization of development and competitive strategy.

### 5.2. SCMIPs identification

Usually there is a gap between supply chain strategy and diagnosed current stage of supply chain, so the ideas should be developed in order to close these gaps. These ideas should be materialized as a SCMIP. The authors suggest:

- Starting from internal supply chain improvement projects to get the second level of supply chain proficiency model before embarking on inter-organizational projects;
- Beginning with a relatively easy and narrow project and next proceed to more complex initiatives (even if the scope of the project is narrow, trade offs are to be taken into account).

### 5.3. SCM metrics system design

The most common mistake while implementing supply chain strategy and SCMIPs is the lack of clearly defined expected effects as well as measures of their achievement. Hence, the development of metrics systems is indispensable while improving supply chain management. At least two tools could be suggested here: balance scorecard in case of supply chain strategy, and SCOR model in case of SCMIPs.

## 6. Implementation

Innovative by their nature supply chain management projects encounter usually resistance from employees. Hence, changes in organizational structure as well as culture are needed. Regardless existing personnel management approaches, methods, tools, it is necessary to create new channels of communication, systems of education and motivation.

Immensely important are SCM trainings. Not only people from logistics department should be involved but also employees from other functional areas as well as supplier/customer staff. It seems that the first training should be held after the diagnosis of logistic systems and supply chain management processes. The output of analysis should be discussed, understood and accepted. During the first training/workshop initial improvement proposals should be identified by participants. The second/third workshop should be organized during/after supply chain strategy formulation. The next workshops should accompany SCMIPs planning.

**Organizational and financial issues.** One of the most important organizational points is to find the sponsors and leaders of the projects in question. The project sponsor should come from the board of managers, otherwise any SCMIP, which in fact impacts company strategy, will not be given sufficient attention and eventually acceptance. Accordingly, the probability of SCMIP success is low. The leader who initiates and coordinates the project comes usually from logistic de-

partment, however as indicated in supply chain proficiency model it depends on the stage of supply chain management development. The SCMIP team members should be recruited from the departments that participate in supply chain management processes planning and execution, depending on the process that is to be improved. Obviously in case of inter-organizational initiatives supplier/customer staff is indispensable.

It is extremely difficult to indicate the cost of SCMIP. It obviously depends on the scope of the project and complexity of company's and its own supply chain structure. However, discounted costs born to identify, plan and implement the project cannot exceed the present value of expected benefits (saved costs or increased sales). In other words, the authors advocate harnessing calculations based on discounted cash flow approach (DCF). As pointed above the rough calculations of expected benefits could be identified on the very first stages of analysis. Based on this knowledge the project leader has to ascertain the maximal costs of the project (e.g. the maximal amount that external consultants could be paid). The more detailed supply chain analysis, the more precise calculations.

## **PROJEKT DOSKONALENIA ŁAŃCUCHA DOSTAW**

### **Streszczenie**

W referacie zaprezentowano procedurę projektu doskonalenia łańcucha dostaw (SCMIP). Autorzy wierzą, że referat może się stać pomocny w określeniu zakresu obowiązków osób zarządzających łańcuchami dostaw.