Supplier Relationship Management in Health Care Practice – A Case Study

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Abstract

Structural changes and increasing market dynamics in the health care sector intensify the hospitals' need for cost-savings and process optimization. One source to generate not only short-term savings but also sustainable benefits is the active and sophisticated management of the relationship with different suppliers, also known as supplier relationship management (SRM). As in the health care sector material cost continuously augment, it is crucial to understand the basic concepts of SRM in general, but also to recognize the potentials for health service providers in particular. For this purpose a case study is presented which reproduces the impact of the implementation of different SRM concepts and tools in a leading Swiss hospital. A major finding of the case study is that not only benefits for the hospital's purchasing department are generated but also for the nursing service. As SRM is still quite unknown in health care practice, future research needs to be dedicated to deliver capable models and methods for the integration of both managerial and technical aspects of the management of supplier relationships.

Key words: Supplier Relationship Management, Health Care, Collaboration

1 Introduction

In industries characterized by intense competition the effects of globalization, fragmentation of markets and new technological advance, e.g. in data transmission and data processing, had a tremendous impact on the division of labor. This led to higher specialization and standardization of service components and to shorter processes and lower costs [1].

Up to now, the health care sector has only seen the beginnings of this development. In Switzerland, like in many other industrialized countries, the health care market is still marked by monolithic structures [2]. The fact that health care differs in structure from most other sectors is attributable to the high level of regulation which can hinder or prevent innovation, the high proportion of government investment and the associated low pressure in respect of effectiveness and efficiency, the lack of orientation towards patient benefits and the widely differing interests of the individual players [3]. More recent advancement such as e.g. the introduction of fixing rates for inpatient treatment nonetheless provides a clear indication that the pressure to achieve effectiveness and efficiency is set to increase significantly.

This development towards better cost consciousness and process outcome will also affect the purchasing department of a hospital. In the recent past, hospital buyers were only expected to attain the best price for the needed goods. In future, hospital managers assume that the purchasing department will also contribute to revenue increases and to knowledge acquisition [4]. Hence the role of the supplier who formerly was considered as opponent within price negotiations will change to a business partner who contributes an added value to the hospital and therefore needs to be better integrated into the procurement processes.

This is exactly the issue addressed by the concept known as supplier relationship management (SRM). SRM combines traditional operational purchasing and procurement activities together with organisational and in particular strategic aspects of sourcing such as supply chain monitoring, supplier controlling, contract management, or collaborative procurement planning.

2 Components of Supplier Relationship Management

One possibility to structure the different components of SRM is proposed by [5] (cf. Figure 1). Basically three phases for managing the supplier relationship were identified:

1. *Strategic sourcing* relates to all necessary instruments for the retrieval of information such as product information, terms and conditions which are required for the negotiation and configuration of contracts. It also includes tools for the integration and evaluation of suppliers.
2. *Functional procurement* relates to all necessary instruments for ordering and conclusion of a contract such as payment, invoice verification.
3. *Monitoring and controlling* relates to all necessary instruments to measure and control of the performance of strategic and functional procurement processes.

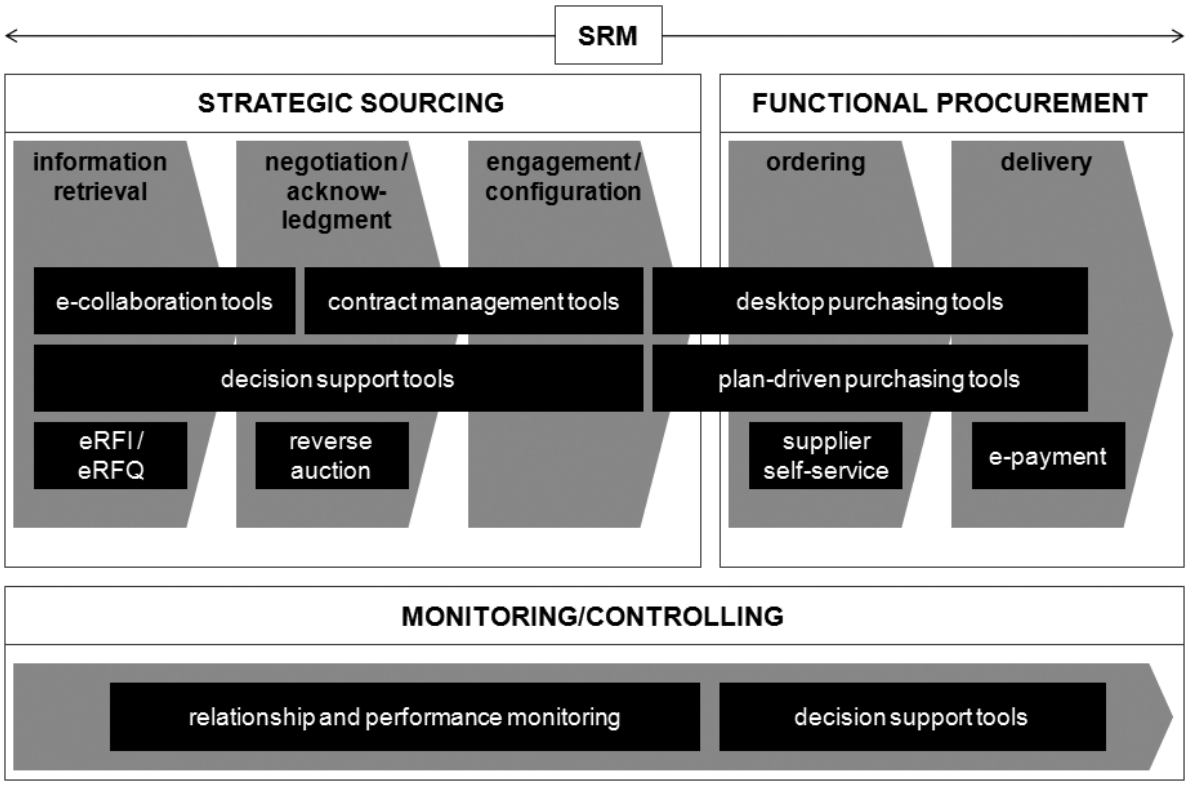

Figure 1: Components of SRM as stated by [5]

3 Status Quo in Health Care Research and Practice

Compared to industries with intense competition like for e.g. automotive or consumer electronics SRM is not paid much attention to health care research and practice [6]. For a broader acceptance in health care, feasible tools and methods are needed which can reflect the actual requirements of the diverse players of the health care sector and are able to cope with the characteristics of this specific industry:

1. *Seller's market*: up to now, in contrast to other industries the health care sector is a classical seller's market. There is still a strong dependency between producers and customers. The constitution of collaborative processes is therefore highly complex.
2. *Governmental regulations and control*: the health care market is completely administered by governmental agencies - both professional (e.g. admission for pharma-related professions) and commercial (e.g. assignments to render certain services). Freedom of action is therefore constricted.
3. *Responsibility for service delivery in case of crisis*: public hospitals have a permanent obligation for service delivery, also in case of crisis. Therefore only a marginal fault tolerance in the procurement processes is admissible.

3.1 Status Quo of Strategic Sourcing in Health Care

As stated by [6] the prize is still the most important criterion for hospital buying agents for the establishment of a supplier relationship. Product quality and reliability seemed to be much less important. The diffusion and use of e-collaboration tools and decision support tools for sourcing purposes is therefore uncommon.
As the short-term prize advantages for most material groups of a hospital are largely exploited other criteria for the selection of suppliers will gain in importance [7]. To generate mid-term and sustainable long-term cost-savings hospitals would need to increase networkability by bundling their demand in purchasing associations, establishing (with other hospitals and health service providers) a cross-organizational category management, thus optimizing the number of suppliers and product portfolios [8]. Introducing the mentioned business concepts in hospitals will not only have an impact on financial issues but also have a fundamental influence on the ICT-architecture of a hospital (e.g. increased use of collaborative tools, cross-organizational integration of applications).

3.2 Status Quo of Functional Procurement in Health Care

As strategic sourcing tools mainly focus on the effectiveness of a supplier relationship, functional procurement tools aim at the efficiency of the supplier/hospital procurement processes. Because of a broader availability of such tools, the diffusion of e-procurement seems to be more common than that of the above mentioned sourcing tools. An actual study of the German Association for Medical Technology revealed that 38 percent of the German hospitals already implemented an electronic delivery order and 35 percent an electronic invoice [6]. Nevertheless, this ratio seems to be marginal when comparing with the aviation industry where 85 percent of the organizations actively use e-procurement in day-to-day business.

3.3 Status Quo of Monitoring and Controlling of Procurement in Health Care

Besides the strategic and functional activities in procurement there is also a need for tools to monitor and control the suppliers' and buying agents' performance. Therefore actual and accurate information about prices, delivery times, quantities and quality aspects build the basic input parameters for performance measurement. Hence, data quality management (DQM) is becoming increasingly important when establishing SRM.
While in health care improved data quality is mostly linked to better management of health plans and improved treatments, it also can help to increase competitiveness of a hospital (e.g. for establishing relationship marketing [9], for decision making about cost-effectiveness of treatments [10]).
Up to now, little has been done by Swiss hospital purchasing department managers to implement performance measurement in procurement. Hence, there is still much need for action in this phase of SRM.

4 Implementation of SRM Tools in a Swiss Hospital – A Case Study

The implementation of SRM in Swiss hospitals is still in the fledgling stages. Therefore the case study at hand simply presents a first field report. Nevertheless, it can provide guidance for other hospitals when implementing SRM and helps to get a better understanding of the importance of SRM in day-to-day business of a purchasing department.
As the concept of SRM alludes to many different topics (e.g. appraisal of suppliers, contract and risk management, and functional procurement) and therefore affects many different activities around the sourcing and provisioning of materials in a hospital, a clear delineation of the area under investigation is needed. The focus of the presented case study lays on two topics:

1. Inter-organizational exchange of product information as a preliminary form of strategic sourcing, and
2. Optimization of the internal ordering procedure as a crucial task of functional procurement.

The first aspect was selected due to the fact that the availability of timely and accurate information about purchasing conditions of other hospitals strongly enhances the bargaining power of buying agents and therefore can be seen as

an enabler for the transformation of the actual structure of an archaic seller's market to a more competitive buyer's market.
The second aspect is a common issue which also can be found in other sectors of economy. The emphasis therefore is on the demonstration that existing solutions of other sectors can also favorably be applied in the health care context. On the other hand, the optimized handling of internal orders can be seen as an important contribution of the hospital's purchasing department to enhance the overall quality of health service delivery (since a medical treatment without the proper material and drugs can significantly affect the therapy of a patient).

4.1 The Hospital under Study

With an average of 31.000 inpatient and 161.000 outpatient treatments and about 4.800 employees the subject under study is one of the largest Swiss hospitals. Every day, 950 orders were handled by the purchasing department, either by phone or per fax. So, the great part of a buying agent's labor time was used to (manually) process these orders. In 2006, the purchasing department manager decided to implement SRM as an organizational and technical response to the actual drawbacks. Thereby two major objectives should be attained: first, cost of supplies should be reduced through better prices and second, not only the procurement process should be optimized but the overall logistical processes from ordering to in-house delivery in order to actively contribute to the health service delivery of the hospital.

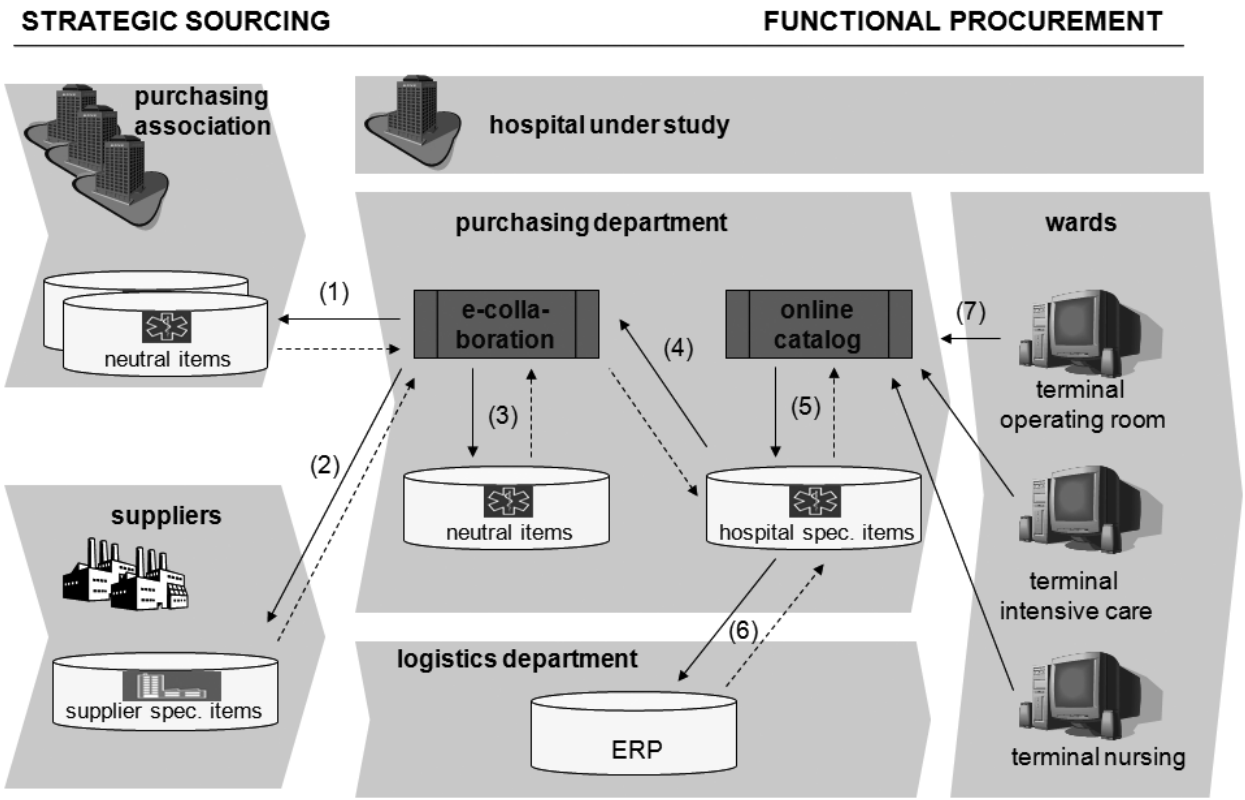

Figure 2: Implemented SRM-tools

4.2 Strategic Sourcing: Enabling Demand Pooling through E-Collaboration

In order to accomplish the first objective and because of the close margins for price negotiations of a single hospital a purchasing association (with three other hospitals) was founded. One major problem, however, was the comparison of products, prices, and suppliers since they had differently administered master data. In order to make the data comparable and to pool the demand of the four hospitals for the joint sourcing of defined materials, a common terminology was needed (cf. Figure 2, relationship 1). However, the development of a proprietary terminology can result in a lengthy debate about field names and properties, etc. and boost the cost for deployment and maintenance. Therefore the purchasing managers decided to implement an off-the-shelf e-collaboration tool which classified items neutrally, and free of manufacturer-specific terms (relationship 3). Thereby the transparency about product prices, trade allowances, and consumption was enhanced. Today, this improved information basis is actively used when negotiating with suppliers (relationship 2). At the same time, the implementation of the e-collaboration tool lead to a simplification of the structures of the product master data and to a reduction of the cost for administration as from now this is done by the software-producer.

4.3 Functional Procurement: Use of an Online Product Catalog for In-house Ordering

With the aim of optimizing efficiency of the overall logistical processes two major deficiencies were addressed within the project. First, to ease the buying agents of doing unprofitable work (e.g. to manually process the incoming paper-based orders from the wards), the ordering procedure was intended to be best possible automated. Thus, the entire in-house ordering procedure was outsourced to the wards (relationship 7). For this purpose, an online product catalog was implemented, which contained all product data with the hospital-specific denomination of the items (relationship 5), since this was one of the key requirements to ensure the acceptability of the new solution. To guarantee the consistency of the neutral as well as the hospital-specific product master data, a synchronization mechanism between the two databases was needed (relationship 4). On the other hand, simplicity of handling was another essential requirement. For this reason, the whole ordering procedure on the part of the wards had to be effected on a simple web browser.
Second, to enhance the overall logistical process an interface to the ERP was implemented (relationship 6). As the incoming goods are registered in the ERP, an important feedback loop for the sourcing process was automated which formerly was done by hand. Due to better information about the reliability of suppliers, stock management was improved and the delivery of the needed goods was accelerated, too. However, another essential feedback loop – the factual use of the requested material within the medical treatment – still remains unconsidered.

4.4 Resulting Benefits of the Project

By implementing the above mentioned SRM-tools several benefits for the *purchasing department* have been generated:

1. With the constitution of a purchasing association (and with the corresponding implementation of the e-collaboration tool) data quality is enhanced and transparency of prices and variety of products of the different hospitals is obtained.
2. By using off-the-shelf software for communication with suppliers unnecessary media breaks were eliminated.
3. Due to the implementation of an interface between the online catalog and the ERP the parts of the process (from ordering to the registration of the incoming goods) could be digitized, thus media breaks are avoided again. Moreover buying agents could be deployed for more beneficial tasks.

In addition to the mentioned benefits for the purchasing department there are also advantages for the *nursing staff*:

4. By using an online product catalog the search for determined products is significantly simplified. Furthermore, extensive add-on information about products, suppliers etc., is available. This facilitates the comparison of products, reduces the rate of mispurchasing and enhances the order pattern. In addition, most purchasing orders can be placed within the same application by simply using a web browser. Thereby costs for education are being significantly reduced.
5. Manual ordering is cut down to a minimum. After the implementation of a desktop purchasing tool more than 80 percent of the in-house orders are processed electronically. Hence, nursing staff always has actual information about the status of the order and in most cases the order is placed within the same day.

5 Conclusions

Although today's reason for implementing SRM is mostly driven by cost-savings and efficiency increase propositions, substantial improvements in efficacy and quality in different departments of a hospital can be achieved. The described case study shows a first attempt for doing so. By exchanging product information with other hospitals, the purchasing department under study has made the first move to establish strategic aspects of SRM. The availability of comprehensive and up-to-date product information can definitely enhance the bargaining power of the hospital's purchasing department. The European Commission reported that hospitals which had experience with ICT-supported sourcing had sustainable cost reductions (51% said that the perceived effects were fairly positive, 17% said that they were even very positive) [11]. However, a more detailed study of the effects resulting from this better information basis has to be conducted in future research.
In addition, by improving the in-house ordering procedures, sustainable benefits in terms of efficiency, efficacy and quality of the functional procurement was obtained, since 80% of the former paper-based orders are now processed electronically. As in health care the perceptions of the various actors are extremely important to the success of any change effort [12] and industrial approaches to procurement are rather unusual [13], a key success factor when implementing the new online product catalog was its simplicity (i.e. using web technology) and the utilization of the well-known, hospital-specific denomination of the items instead of a new terminology.
Furthermore, when looking at the entire health care material management, most benefits will certainly emerge through the centralization of procurement and logistics by intensification of the collaboration between the hospitals and through outsourcing of certain activities to the supplier (e.g. vendor managed inventories, cross docking). However, this will cause new problems and will need advanced knowledge of both managerial and technical nature.
Thus, building on the results of this contribution, future research needs to be dedicated to deliver capable models and methods for both business and IT in order to give guidance for the systematic implementation of SRM. This will lead to a clarification of the roles to be adopted by the different players and will speed up the current state of SRM use in health care organizations.

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