

Business Network Redesign: Reorganization of Distributed Processes in Medium-sized and Large Companies

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1. Introduction

One of the major challenges companies face today is to meet increasing customer demands. Short delivery times, efficient processes and improved customer service are key to competitiveness. These goals will only be reached if optimization efforts focus not only on internal processes and systems but also include the entire business network, i.e. customers and suppliers.

Business Network Redesign (BNR) is an enhancement of traditional Business Process Redesign (BPR) methodologies which have the aim to develop and implement strategic business concepts which ensure fast and efficient reaction on customer demands. Improved intra-organizational processes are the basis for BNR which analyses entire networks of (internal and external) business partners and emphasizes distributed processes of the extended supply chain such as procurement, distribution and planning. Business Networking encompasses various strategies, such as electronic commerce (EC) and supply chain management (SCM). They create new (electronic) possibilities for the selection of products, order entry, distribution, and payment.

2. Project Overview

The Swatch Group is a globally operating producer of watches for brands such as *Blancpain*, *Omega*, *Rado*, *Longines*, *Tissot*, *Certina* and *Swatch*. A part of *The Swatch Group*, *ETA SA Fabriques d'Ebauches* in Grenchen, Switzerland, supplies the movements for watches to all brands of the group. The brands themselves organize production and distribution of the finished products. As the world's third largest manufacturer of movements, *ETA SA* has over 15 production sites in Switzerland, Germany, France, Thailand, Malaysia and China.

In order to ensure a customer-oriented and efficient production of watches, a coherent management of the relationships among the relevant group companies is one key success factor. However, the situation at *ETA SA* showed shortcomings concerning customer service in the following areas:

- Customers were lacking information on the interchangeability of parts (one article may be used in several movements), up-to-date technical information, and assembly information for the production of watches.
- Long cycle times for the repair of movements and the distribution of spare parts and frequent misunderstandings resulting in the delivery of wrong parts.

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- Rudimentary information on *ETA SA* customers, their sales history concerning spare parts as well as their preferences.

These problems indicated that the redesign efforts had to focus on processes and applications. Other dimensions such as markets, the partner configuration as well as the strategies of the individual business units were no primary objects of design. Together with the Institute for Information Management, University of St. Gallen (IWI-HSG), *ETA SA* set up the BNR project in two phases: Phase I (BNR I) concerned the re-engineering of two main processes and phase II (BNR II) the introduction of an EC solution. BNR II will be running until March 2000.

2.1 BNR I: Introduction of New Calibres (IONC)

The IONC process focuses on the introduction of new calibres in the market. Movements, spare parts, technical documents, movement-specific tools, training materials, price lists, sales conditions and sample specimen are needed in sufficient quantities. Together with representatives of Omega and Rado a new vision for the IONC-process and necessary services for the customers were developed. The next step was to group these services along the phases of the customer buying cycle for movements: first, customers become aware of a new movement, second, they test the product and make the buy decision, third, the new calibre is delivered to the customer, and, fourth, the customer re-orders the calibre. Along the phases of this customer buying cycle, information services were developed to increase customer service. For example, market information establishes the possibility to quickly and easily obtain information on new calibres.

2.2 BNR I: Distribution of Spare Parts

The Swatch Group operates a world wide network of country organization for the distribution and the repair of watches. Before the redesign, the distribution of spare parts to these organizations involved a complex network of warehouses. Country organizations would receive replacement movements and spare parts from the Swatch Group manufacturers such as *Rado* or *Omega* which themselves obtain the parts from ETA Customer Service (ETA-CS) and store them in their internal warehouses (Figure 1). In order to reduce costs, a direct delivery channel was conceived: spare parts and movements which are used in the same fashion (i.e. standard calibres) should be delivered directly to the country organizations. This implies that the brand manufacturers may then reduce or even eliminate their own warehouses. Currently, the redesigned spare parts supply chain is in a phase of testing.

2.3 BNR II: Introduction of an EC Solution

Traditionally, orders were sent to ETA-CS via fax or mail. Their main problem was that consistent information on available products was lacking and orders often were for just “40 gears with 14 teeth”. Translating this order into processing terms, i.e. finding out the relevant part number, was very time consuming, and identifying the relevant part could take hours. After this matching process the order was finalized and entered into ETA SA’s ERP system. Incorrect matches led to the delivery of wrong parts, which in turn increased the already cost and time intensive complaint process.

The EC solution should improve this situation by establishing an electronic distribution channel for the business-to-business sales of spare parts and sales products. Customers should be able to:

- browse through products, prices, discounts and related up-to-date product information over the Internet,

- download technical documents,
- put the desired products into a shopping basket,
- directly see their total order amount including discounts and the like,
- pay on-line via credit card (especially for small customers with unknown credit standing), and
- track the status of their order.

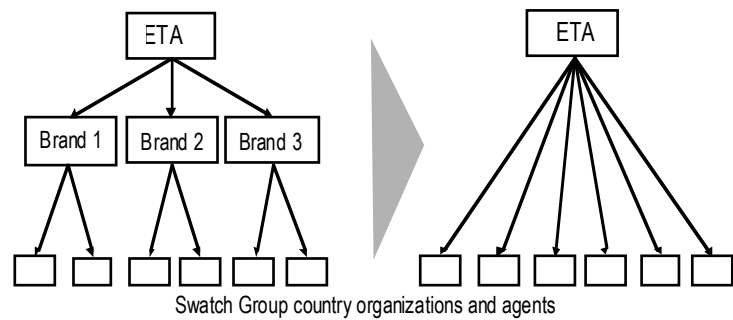


Fig. 1: Redesign of spare parts supply chain [Alt et al. 99]

3. Conclusion

Redesigning Business Networking processes and applications at *ETA SA* led to significant economic benefits. Concerning the impact of BNR I, cost-decreasing investments and other measures will make the processes at *ETA-CS* more efficient. Warehouse management and distribution costs will remain stable in spite of increasing order volume. From the perspective of the entire Swatch Group the number of stored parts and movements of standard calibres will decrease.

The benefits of BNR II mainly focus on improvements in information management and customer value. The EC solution makes always up-to-date relevant information on existing and new products available, comes up with new functionalities that make the customers' ordering process easier and ensures a quicker order treatment within *ETA SA* due to the elimination of misunderstanding orders. This will help *ETA's* staff to intensify customer relationships (e.g. acquisition of new customers, answering individual questions).

The research findings of the BNR projects are threefold. First, it provides a practical insight to the diffusion of EC solutions since IWI-HSG participates in all stages of development: from early conceptualization, roll-out to customer feedback. Second, several success factors were derived which are considered critical for the implementation of EC solutions (e.g. harmonization of master data). Third, BNR emphasized that Business Networking involves an alignment of multiple networking strategies (e.g. EC and SCM) which are often treated separately in the literature.

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References:

- [Alt et al. 99] Alt, R., Österle, H., Reichmayr, C., Zurmühlen, R. (1999): Business Networking at "The Swatch Group", in: EM-Electronic Markets, forthcoming 1999.
- [Benz et al. 99] Benz, R., Fleisch, E., Grünauer, K.-M., Österle, H., Zurmühlen, R. (1999): Entwurf von Prozessnetzwerken am Beispiel von zwei Business Networking-Projekten der Swatch Group, in: Proceedings Wirtschaftsinformatik'99, Saarbrücken March 1999.