

A New Way of Conjoint Added Value Generation in Collaborative Business Processes



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INTRODUCTION

Nowadays, economic organizations are dramatically changing towards networked structures (Österle, Fleisch, & Alt, 2000). These are characterized by core competence specialized value units (Prahalad & Hamel, 1990) that intensively interact along the added value in order to cooperatively generate the intended product. This intensification of exchanges leads to strong, collaborative relationships (also called collaborative business (cf. Camarinha-Matos, 2002). In these structures, the generation of added value is highly distributed through the network. In this respect, the relationships between such enterprises are more than simple supplier-purchaser-relations. They represent a crucial part of the output generation chain, or in other words, of the collaborative business process. The latter means the sequence of activities within this collaborative network that result in the generation of the intended output.

However, the conventional understanding of business processes is limited to a single enterprise (e.g., in Davenport, 1993; Hammer & Champy, 1993; Scheer, 1999). Attempts to extend the business process concept to inter-enterprise environments only substitute the department of an enterprise by a whole enterprise itself (e.g., Hirschmann, 1998). However, this understanding does not reflect the special properties of collaborations that cannot be considered as a huge corporation-like enterprise. Therefore, this article investigates the collaboration in regards to the business process aspects and reveals the special properties that differentiate collaborative business processes from “simple” cross-organizational ones and others.

COOPERATION AND COLLABORATION

A single enterprise is not all-embracing; it has relations to other enterprises. In general, if such a relationship

is related to the output generation, it can be called a *co-operation*. Despite this intuitive understanding, there exists heterogeneity of definitions in literature. However, the different understandings mainly share some common basic characteristics. For example, Benisch (1973) defines co-operation as “the merging of individual enterprise functions for the purpose of increasing the production capacity of the enterprises involved and thereby to improve their competitive ability.” Pleiss & Kreutner (1991) offer one more operational definition with “a collective acting of at least two [enterprises], which share individual goals on the basis of coordinated action plans (...).” In a common understanding, co-operation is understood as generalized interworking of enterprises (e.g., Schmidt, 1994; Sieber, 1998).

Mandatory characteristics of a co-operation comprise the functionally synchronized interworking and the self-dependence of the involved ones. The functional adjustment is a coordination form between markets and strict hierarchies. The self-dependence means here a legal and economic autonomy of the co-operation partners. However, it does not imply a voluntariness of the participation in the co-operation, because the co-operation could be the result of a material or financial dependence. Authors such as Troendle (1987) see the dependence in a co-operation as one of its main characteristics. The ambivalence of co-operation regarding autonomy gain and power loss and vice versa is called also “paradoxon of a co-operation” (Boettcher, 1974). Similarly, the question of voluntariness is answered differently by Benisch (1973) and Fuest (1998). They also disagree in the evaluation of the project character of co-operations.

The term of the collaboration is introduced in later works. It is presented as a special form of co-operation. However, both terms are also partially used as synonyms. Schneckenbach and Zaier (2003) emphasize the equal rights of the partners as the specific characteristic of collaborations. This goes beyond the postulate

Table 1. Summary of collaboration features

- Shared added value generation in long- term business structures
- Cross-organizational division of labor
- Autonomously acting organizations
- Seamless integration between the partners

of self-dependence of co-operations, since independent means not *organizationally equal*. On the other hand Căsar, Alt and Grau (2004) stress the information technology component in the collaboration. Here an electronic component is supposed as communication and co-ordination instrument within the collaboration. The Wolfgang Martin Team (2002) refers to the business processes orientation of the collaboration. These business processes are executed in division of labor. Smith (1994) states that regarding the collaboration it premises the expectation of a common objective. Due to the focus on the output dimension, it can be deducted that a collaboration serves to a shared added value generation. This goes beyond the understanding of a general co-operation, because for co-operations, only an output-improving effect is postulated. Such improvement effects could, for example, be produced by patent exchanges. Such enterprise relations would surely fall under the definition of co-operation, but would contradict to the understanding of collaborations. Collaborations namely produce within the interworking relationship a distinguishable output. Moreover, Smith (1994) regards the “seamless integration of the parts” as a substantial characteristic. This criterion links the previously described characteristics, because it fosters the reduction of enterprise borders within collaborative structures.

CHARACTERISTICS

Collaborative business processes are business processes, which are realized within a collaboration. This composed definition would be surely comprehensive. However, it does not reflect the special characteristics of such business processes. Therefore these implied characteristics are systematically investigated on the basis of the findings about collaborations. Thus, a business process seems to be collaborative upon the following characteristics:

- **Cross-organizational spanning:** Due to the division of labor in which the output is generated, the producing business processes are cross-organizationally spanning. Even as originally the concept of business processes aims at the enterprise-internal use, the extension of this understanding towards cross-organizational scenarios has evolved within the last years (e.g., Ludwig, Bussler, Shan, & Grefen, 1999).
- **Output provision:** The characteristic of the output provision in collaborations leads to the conclusion that the associated business processes serve for the output generation. Thus, administrative processes could not be included by collaborative business processes. However, the term covers planning and controlling components of a business process, for example, the material disposition or production planning. A hybrid candidate is the product development. On the one hand, in a strict interpretation, the development is not part of the output provision itself. On the other hand, the development processes are the mandatory requisite for producing any output. This is the same case as with production planning. Therefore, it can only be a case-by-case decision, if a specific cross-organizational development process is considered as collaborative business process or not (e.g., for Rouibah & Caskey, 2003).
- **Long-term orientation:** Due to the long-term nature of the collaboration, also, the collaborative business process is to be characterized as long-term one. This negates the ad hoc composition of production communities on an order basis, as provided, for example, by virtual enterprises. In this context, the long-term criterion is referring to the dimension of the time (“for longer time”) and to the dimension of the business occurrences (“for many business transactions”).
- **Composed from autonomous parts:** The provision of an output by division of labor implies the

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