Concept of Collaboration

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INTRODUCTION

Although everybody has an intuitive notion of what collaboration is, this concept is often confused with cooperation. For many people, the two terms are indistinguishable. Even when a distinction is made, there are many different uses of the term *collaboration* in the current literature. The ambiguities reach a higher level when other related terms are considered such as networking, communication, and coordination (Denise, 1999; Grosz, 1996; Himmelman, 2001; Pollard, 2005). Although each one of these concepts is an important component of collaboration, they are not of equal value; neither one is equivalent to it.

BACKGROUND

In an attempt to clarify the various concepts and synthesize the various perspectives found in the collaborative networks literature, the following *working definitions* (Camarinha-Matos & Afsarmanesh, 2006) are proposed:

Networking: Involves communication and information exchange for mutual benefit.

A simple example of networking is the case in which a group of entities share information about their experience with the use of a specific tool. They can all benefit from the information made available/shared, but there is not necessarily any common goal or structure influencing the form and timing of individual contributions.

Coordinated networking: In addition to exchanging information, it involves aligning/altering activities so that more efficient results are achieved. Coordination, that is, the act of working together harmoniously, is one of the main components of collaboration.

An example of coordinated activities happens when it is beneficial that a number of heterogeneous entities share some information and adjust the timing of, for example, their lobbying activities for a new subject in order to maximize their impact. Nevertheless, each entity might have a different goal and use its own resources and methods of impact creation.

Cooperation: Involves not only information exchange and adjustments of activities but also sharing resources for achieving compatible goals. Cooperation is achieved by division of some labor (not extensive) among participants.

A traditional supply chain based on client-supplier relationships and predefined roles in the value chain is an example of a cooperative process among its constituents. Each participant performs her part of the job in a quasi-independent manner (although coordinated with others). There exists, however, a common plan, which in most cases is not defined jointly but rather designed by a single entity, and that requires some low-level co-working, at least at the points when one partner's results are delivered to the next partner. And yet their goals are compatible in the sense that their results can be added or composed in a value chain leading to the end-product or service.

Collaboration: A process in which entities share information, resources, and responsibilities to jointly plan, implement, and evaluate a program of activities to achieve a common goal. This concept is derived from the Latin *collaborare* meaning "to work together" and can be seen as a process of shared creation, thus a process through which a group of entities enhance the capabilities of each other. It implies sharing risks, resources, responsibilities, and rewards, which if desired by the group can also give to an outside observer the image of a *joint* identity. Collaboration involves mutual engagement of participants to solve a problem together,

which implies mutual trust and thus takes time, effort, and dedication.

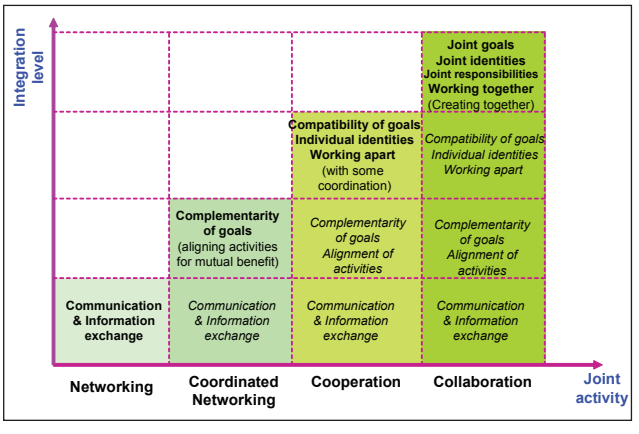
A collaboration process happens, for instance, in concurrent engineering, when a team of experts jointly develops a new product. From this example, it can be noticed that although some coordination is needed, collaboration, due to its joint creation facet, involves seeking divergent insights and spontaneity and not simply a structured harmony.

As presented in the given definitions and depicted in Figure 1, each of the above concepts constitutes a "building block" for the next definition. Coordination extends networking; cooperation extends coordination; and collaboration extends cooperation.

As we move along the continuum from networking to collaboration, we increase the amounts of common goal-oriented risk taking, commitment, and resources that participants must invest into the joint endeavor. In the rest of this article, we focus on collaborative networks which subsume all other forms.

Even with these definitions, in practice, the distinction between collaboration and cooperation is not always very clear. In fact, in a collaborative network, collaboration in its strict sense does not happen all the time. For example, in the manufacturing alliances, very often there are phases of intense collaboration, for example, design and planning phases of a project, intermixed with periods when the participants work individually and independently on their assigned tasks. Then, from time to time, they "come together" (physically or virtually) to integrate their results and continue the joint problem solving. Therefore, a collaboration process clearly involves periods of only cooperation.

Figure 1. Examples of joint endeavor



Understanding and supporting collaboration, which is the most demanding joint endeavor, also leads to understanding and supporting the other less demanding forms of interaction.

In collaboration, parties are more closely aligned in the sense of "working together" to reach the desired outcome, rather than that outcome being achieved through "individualistic" participation constrained by contextual factors such as those imposed by client-supplier relationships.

REQUIREMENTS FOR COLLABORATION

Collaboration is a difficult process and thus the chances for its success depend on a number of requirements:

- Collaboration must have a *purpose*, usually translated to a joint goal or problem to be solved. It is not enough that parties have their own individual goals.
- *Basic requirements* or preconditions for collaboration include (Brna, 1998; Giesen, 2002):
  - Parties mutually agree to collaborate, which implies accepting to share.
  - Parties keep a model of each other's capabilities.
  - Parties share a goal and keep some common vision during the collaboration process towards the achievement of the common goal.
  - Parties maintain a shared understanding of the problem at hand, which implies discussing the state of their progress (state awareness of each other).

Sharing involves shared responsibility for both participation and decision making, shared resources, and shared accountability for the outcomes, both in terms of rewards and liabilities, as well as mutual trust. However, we shall notice that sharing does not imply equality. Different parties might have different "amounts" of involvement according to their roles.

- As a *process*, collaboration requires setting a number of generic steps (Giesen, 2002):
  - Identify parties and bring them together.
  - Define the scope of the collaboration and define desired outcomes.