27 ESTABLISHING AND KEEPING INTER-ORGANISATIONAL COLLABORATION. SOME LESSONS LEARNED

Raúl Rodríguez, Pedro Gómez , Rubén Darío Franco and Angel Ortiz
Research Centre on Production Management and Engineering
Polytechnic University of Valencia
Camíno de Vera S/N. Edificio 8G, Acceso D Planta 1º
Tel. (+34) 96.387.96.80/Fax: (+34) 96.387.76.89
{ raurodro | pgomez | dfranco | aortiz}@cigip.upv.es
SPAIN

From a practical point of view, this work focuses on pointing out and providing solutions to some of the most common problems that challenge the establishment and keeping of collaborative inter-organisational practices. These problems are grouped into four main intangible factors: trust, equity, coherence and visibility. Due to the changing nature of these four factors, the concept of dynamic interactions is introduced and illustrated. Dynamic interactions among these four intangible factors make more difficult the monitoring and management of possible problems. Then, some solutions to these problems derived from experience are provided.

1 INTRODUCTION

Over the last years, and mainly due to technological improvements, inter-organisational collaborative practices have become both popular and applicable for organizations in a worldwide basis. In this context, the inter-organisational collaborative process itself implies that at least two entities are willing to collaborate for achieving a common goal, perhaps by sharing resources, perhaps by sharing strategies, but for sure by sharing information. Once the first step of agreeing to collaborate has been given, and when it is time to pass into action, experience says that problems usually arise. Such problems may manifest sooner or later within the collaborative lifecycle but they have really got the potentiality of breaking the whole collaborative process and, extensively, the profits to be achieved by participants. The variety of these problems may be high in both number and nature and their solution usually always involves negotiation processes between the parts. From their experience, the authors think that there are some factors that could be considered the root of many of these problems.

The main objective of the present piece of work is to go through the main of these factors, presenting associated problems and providing at the end some practical solutions that could be taken into account when establishing and keeping inter-organisational collaboration.

2 COMMON PROBLEMS

2.1 Intangible factors

The main problems detected from experience came up while carrying out collaborative practices among enterprises. The authors have taken part of collaborative networks under the form of extended enterprises (EE). An EE span company boundaries and include complex relationships between a company, its partners, customers, suppliers and market (Browne, Sackett and Wortmann, 1994). Companies in an EE must co-ordinate their internal systems (intra-organisational activities) with other systems within the supply chain, being flexible enough to adapt to changes. Several problems come up when developing collaborating network practices within this environment: disconformities with assigned roles, disconformities with assigned tasks, disconformities with allocated resources, unrealistic objectives, etc. Such problems could be grouped into the main four categories, called also intangible factors:

- Trust.
- Equity.
- Coherence.
- Visibility.

As Figure 1 shows, these four intangible factors are directly affecting and making difficult the collaborative process and will be presented and discussed in the next points.

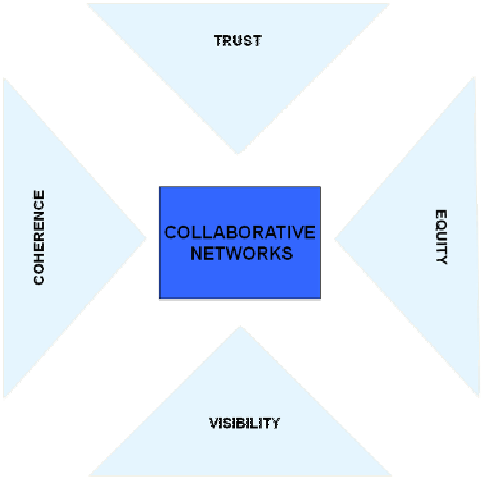

Figure 1 – Intangible factors

From the definition of EE, as well as from experience, it is possible to affirm that trust between the collaborative parts is essential in order to success in such a business environment. In the collaborative network context it is essential that the different members trust each other. This could be stated as a non negotiable starting

point for avoiding later disputes and malfunctions of the collaborative network. But in today's competitive environment trust is not that easy to achieve between organisations. Usually, organisations that are willing to collaborate are those that have known each other for a long time or that have somehow interacted. This lead to the fact that, initially, trust among the members of a collaborative network is a matter of knowing how the others members work. Further, and in the EE context, different flows of both information and material/services are moving within the network boundaries. Such information flows might range from operational information, for instance simple production/facilities data interchange, to strategic information, for instance sharing strategic plans, with the consequent need of trust among the members.

For instance, it is possible to think, in the context of an EE, that the OEM (Original Equipment Manufacturer) creates a collaborative network with one of its first tier suppliers and with one of its first tier distributors for sharing information and working in a much more integrated manner, and achieving then a more agile and flexible network. Focusing on the upstream informational flow, this implies information sharing process between the parts that will not take place in absence of trust.

Therefore, it is possible to conclude that an adequate confidence level or trust among the involved actors is a must for establishing the foundations of collaborative networks.

Once trust among the members of the network has been somehow set, equity is other factor that can potentially hit hard the whole collaborative process. With equity we mean the allocation of tasks and roles between the members of the network. The negotiation process is always a difficult one, as it implies several discussions between the partners and whose main outcome, regarding equity, is the different tasks and roles to be developed by the entire network. Then, it is possible that emerges another problem associated since a conflict of interest among the parts might come up, as they might have different ideas of what applications to develop, what information to share, how to share resources, what the main benefits should be, etc. Then, such an allocation of tasks should be made by taking into account the expected return to be achieved by every member.

Additionally, the allocation of roles might come from the own nature of the collaborative network attending to either win/win or win/lose relationships and also by negotiation. Roles might also be an important source of problems due to individual or collective egos, or to the allocation of concrete roles to the wrong actors; for instance to give a leading role to a member when she does not have either the capabilities or the motivation to execute the pertinent tasks. Therefore, the concept of equity must be carefully handled within collaborative environments.

For instance, and following with the above EE example, if the OEM and its first tier supplier decided, within the collaborative network context, to develop a collaborative demand forecasting tool in order the former would provide the latter with its main future production trends, the allocation of tasks should involve to all the three main actors of the collaborative network: OEM, supplier and distributor, as they all three will benefit of the implantation of such a tool. What it is true is that both the OEM and its supplier should be the ones to lead the development of the tool and should then not rely most of the necessary work to be developed on the distributor's account. Additionally, and regarding the role of allocation, in this

particular case, the OEM and its supplier should adopt both the leading roles and take responsibility for the welfare of the tool implementation.

Coherence is other intangible factors to deal with, as it requires that all the objectives (and strategies) defined by the collaborative network will be in accordance and coherent with the initial agreed goals. It is not unusual to set unrealistic objectives for the network that will lead to states of confusion, deception or scepticism. Besides, and regarding coherence purposes, all the components of the network should feel comfortable and agree with the stated objectives of the collaborative network. Unfortunately, in many collaborative environments, even win/win environments, there are members that want or like to play the leader role and sometimes they do not exercise a good management. Moreover, they could even set up objectives that will turn into not being coherent for the rest of the actors of the network.

For our example of the EE, if the collaborative network set as a common objective, for instance, to become as flexible as possible in its deliveries as a network, this may become, if not agreed for all the actors, a non coherent objective of the network. Such an objective implies that the upstream actors of the network must reduce their lead times regarding delivery and production to a maximum that, in most of the real situations, is not possible to reach. This could be a non coherent objective for the network, as it has not taken into account the real capabilities of the network, setting then an unrealistic objective.

Visibility is the last, but nor the least, intangible factor to take into account in our review. Visibility may turn into a problem when some members of the collaborative network want to check other members' work in order to assess whether they are meeting their obligations or not and whether they are doing it as expected: Adequate quality level, in time deliveries, implementations, developments, tasks executed comparing planned and executed tasks, etc. The handling of information within the collaborative network must be defined and agreed from the very beginning, trying always to avoid a complete federated model, where only one member of the network can access and handle the information about the collaborative project.

An illustrative example could be the one when our EE makes the decision of undertaking a project that involves the work of all its members. Then, once all the tasks have been agreed, and the time to develop them comes, some sort of framework should enable visibility for all the members of the network. Then, it could be checked the development of the project and whether all the parts are delivering the accorded work. This example can also be applied for our collaborative network collaborating with others external organisations/networks for carrying out some activities. The exhortation of checking on others' work will probably be stronger in this case so be the need of keeping any type of visibility framework to do so.

Four intangible factors that might potentially impact over the collaborative process have been presented so far. But an important issue has been deliberatively kept apart up to now: The time factor.

2.2 The problem of dynamic interactions

Once trust, equity, coherence and visibility have been presented as the four intangible factors willing to create problems if they are not dealt with properly, the next question is: Do these factors stay still over the lifecycle of the collaborative

process? In other words, if a high level of trust has been reached/built among the members of the collaborative network, does this level stay high along the whole lifecycle of the collaboration process? The most intuitive answer is not so is the real answer. All these four intangible factors are dynamic in nature and therefore they do change over time. This fact makes even more difficult to manage them and decision makers from the collaborative network should able to detect such changes and take the appropriate measures to mitigate them.

For instance, and regarding the intangible factor of trust, it is possible to affirm that trust levels develop as managers continually update their expectations and assessments of partners (Wicks et al., 1999); additionally, levels of trust and distrust may change as a result of negotiation processes, partner interactions and external events, and as a result of changes in managerial interpretations and collaborative environments (Doz, 1996). From a practical point of view, trust could be considered as one of the key pillars above which to build a collaborative network and therefore its evolution should be carefully monitored over time. Taking a look at the academic literature, it is possible to find some interesting works (Doz, 1998; Ferrin et al., 2005; Ghoshal and Moran, 1996; Klein Woolthuis et al., 2005; Serva et al., 2005), whose main conclusions are the following:

- Trust evolutions in a more positive and smoother way over time for already consolidated collaborative networks than for external collaborative networks willing to interact with others networks.
- The degrees to which actors of the network trust their partners during initial stages of cooperation leave strong imprints on the development of these relationships in later stages of collaboration.
- There are different trust cycles overtime; among the later the vicious and virtuous cycles of trust are the most popular ones. It is agreed that inter-organisational relationships are willing to take place along these cycles.
- Collaboration processes also occur in the presence of distrust and in the absence of trust.
- Trust is build up and destroying several times overtime as a consequence of the interaction of multiples actors.
- The dynamic interplay between trust and others important factors.

The last of these interesting conclusions lead to think about whether and how the different four intangible factors affect each other. It seems clear that those factors will keep some type of interaction, which make even more difficult their monitorisation, control and management.

There are many real examples that could illustrate the problem of managing dynamic interactions among these four intangible factors. For instance, let think of a collaborative network that is working well on a common project, with a high level of trust among the members and any problems of equity, coherence or visibility. Then, during the lifecycle of the project there are some changes in its scope. Such changes lead to re-organise the man-months originally allocated to the members. This new negotiation process will change in some manner the current levels of these factors. Additionally, this is a perfect opportunity for minor problems to arise. If, for instance, one of the members was thinking that she deserves more incomes for the work that she had carried out, this member will not accept more work for the same income but also will try to get more money from the total budget. This action will

lead to diminish the trust towards this member of the rest of the network, which may also result in a closer future monitorisation of the work made by this member in particular and for all the members in general.

This in only one example experimented in a real situation but the domino effect goes beyond the immediate implications of such a re-allocation of resources, it also will highly probably hit negatively in the medium and long term to the whole collaborative network.

3 PROPOSED SOLUTIONS

This point aims to present, based on our experience, some measures that have been proved utile for mitigating negative effects of the four intangible factors of trust, equity, coherence and visibility regarding their dynamic nature and the interactions that may take place between them.

So, Table 1 resumes, for each one of the four intangible factors and more common associated problems, some solutions to be applied.

Table 1 – Proposed solutions

Intangible factor	Problems	Solutions
Trust	Low degree of trust Untrust Vicious cycles of trust	Network committe
Equity	Delivery of tasks Change of roles	Member profile
Coherence	Unrealistic objectives	Working groups
Visibility	Vision of the collaboration process	Visibility framework

For solving any type of problem regarding trust among the members of the network, it should be necessary to create a permanent committee formed by people from all the members of the network. The main goal of such a committee should be to negotiate any issue regarding the collaborative network. For instance, if problems about the contribution of a member arose, such a committee should directly address the point and get on work to solve it as soon as possible. This committee should be established from the very beginning of the creation of the collaborative network and its functions should be well spread within the network.

This solution has proved to be very useful in practice, as it provides, from the starting point of collaboration, a way for members to show their discontent or to make their point regarding conflictive issues that are usually skipped by a network as long as possible, which derives at the end in a much worse situation than the original problem.

For the equity factor, experience says that the roles and task allocation must be clearly defined before the collaborative network get into work. Posterior changes will have to be dealt with carefully. A change in tasks allocations will probably not be as dramatic as a change in the role, especially if the change implies that this member in particular has to play a lower role. In order to better handle all this problems, any change in the tasks and/or the roles within a collaborative network must be approved by all the member of such a network.

Additionally, and as a preventive action, at the beginning of the allocation of tasks and associated roles, a profile with the different roles that could play each member as well as with the different tasks they could carry out should be developed. Such a profile should be agreed by all the parts of the collaborative network and, if changes take place over the lifecycle of the collaborative relationship, there would be an agreed profile from each member, which would avoid lot of discussion and provide a useful resource.

For the coherence factor, in order to avoid the definition of incoherent objectives over time, it would be necessary the creation of a working group forming by people from all members of the network. This people should be well aware their firm's strategy, Then, when setting network objectives up, there would be authorized voices that know to what extend the proposed objectives of the network is realistic, reachable and good for their firms.

Further, these working groups should be the responsible of creating and monitoring a performance management system that would outcome whether the network is achieving the stated objectives or not. Additionally, this working group could hold several meetings where to study the information returned by this system and then decide how good their objectives for the network were, retuning and adjusting them overtime.

Finally, and regarding the visibility factor, the main solution would be to set up an internal visibility framework that would shown all the important information related to the network, specified for each of the members of the network. The possibility of introducing restrained areas and access privileges is an issue to think carefully of. In the past, its introduction has lead to equity problems in different collaborative networks.

Additionally, the solutions illustrated in Table 1 should be supported by IT implementations that would foster and facilitate real time communication and interaction between the parts. For instance, the creation of a visibility framework will imply to design a web space with authorized access to the main members. Further, in some cases it would be necessary to include some sort of restrictions access to the different members according to their privileges of information access. Some networks might also find suitable to make public to all the members the information within the visibility framework. In this case, a single sign-on password could be provided to members in order to facilitate their access.

4 CONCLUSIONS

This paper has presented four main intangible factors, trust, equity, coherence and visibility that have proven to have the potential to break a collaborative network process. These factors are difficult to manage and solve in isolation but, due to its own nature, it is necessary to also consider the dynamic interactions, which make them even more difficult to deal with. Finally, some practical solutions to mitigate them have been presented, highlighting the role of IT practices for supporting them.

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