

CONTEXT IN COLLABORATIVE STRUCTURES – TRANSDISCIPLINARITY

A different
viewpoint

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Collaboration
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Abstract

Holistic approach in many disciplines assumes that each component actually contains information about the whole as a unit. A holistic view of an interorganizational collaboration structure should provide a description based on simple laws of all connections between entities (nodes) and network external universe. This approach is claimed on the basis that each entity reflects and contains the network and this, in turn, contains the entire footprint.

Biology, chemistry and physics base their theories on a specific law of evolution of man, human group or physic-chemical structure. These sciences state that everything is evolving and suffers constant changes, the human evolution, the evolution of society - and social groups in particular - going through a succession of continue or choppy innovations. Sometimes, a phase or a situation seems new just because the context is changed. Innovation is viewed in a holistic way, so just as a new perception of those involved in the innovative process, just a different aspect of how to see and feel the world. The rules and regularities of the whole are constant presences. Life, social and economic systems, in all their complexity, are subjected to the same laws of evolution being processes of continuous innovation.

In terms of innovative process, decisions are not taken between good and evil, or between right and wrong, but between good and better. Although it is applied correctly, an effective process of selecting ideas that will be transformed into innovations is not a prerequisite for choosing the best variant. Once introduced into the process of launching and exploitation in the market, an innovation that can bring profit to companies may actually be an incremental innovation that eliminated the possibility of being selected a better innovation, a radical innovation.

THE CONCEPTUAL FRAMEWORK

Transdisciplinary innovation is materialized by combining the solutions offered by different stages of knowledge in various industries, due to the formation of collaborative structures that exceeded the boundaries between industries.

Communication between the organizations listed in a collaborative network is the vital means to the escalation of boundaries between different knowledge platforms (Monteiro and Keating, 2009). Reception of knowledge from another platform may create confusion and frustration because the knowledge stage is not at the same level. Therefore, the network connectivity must be strong and facilitated by binders. The participation of individuals in the mutual sharing of knowledge is important: those who provide information may communicate theoretical and methodological aspects that lighten the comprehension and the receptors can make critical evaluations.

Through knowledge platforms, we identified that information accumulation specific to a certain domain, which may circumscribe to a discipline. A platform for knowledge can be represented by a wider field, for example marketing, or narrower, the technology of transmitting text messages via mobile for example, while the discipline includes the research domains such as: physics, mathematics, economics, biochemistry, nanotechnology etc.

In addition to the structural network factors that favour traffic liquidity of information between nodes and their possible combinations, an individual leverage is represented by the motivation to absorb information coming from another platform, the desire to exceed the limits of their own discipline (Pennigton, 2008).

In the nodes of the collaborative structure are placed organizations represented by:

1. employees with different levels of expertise and knowledge of a specific field or discipline;
2. specialists working in the community involvement on another station or outside their area of expertise;
3. employees who are at a certain stage of career and who have crossed several fields of activity with skills and knowledge related to different platforms;
4. personal with an accumulation level that incorporates besides academic knowledge also tacit knowledge.

Placed outside the network, individuals have less chance of innovation because they benefit from an insufficient magnitude of knowledge; cumulating knowledge takes time (being a resource consumes a certain amount of time physically), they have or not the synthesis competence, ability that can be structured within the pale of the network.

THE ECOSYSTEM OF THE INNOVATIONAL COMMUNITIES

All the entities involved in the collaborative structure may act for the harmony of the entire network, so that the agreements between the members, connections, information chaining laws can be consistent with the shared vision. Network as a whole, according to the Holistic concept cannot be decrypted and studied in its depth by explaining the relationships and properties of the component organizations. L. Von Bertalanffy puts principle of holism at the base of the *general systems theory*.

An issue highlighted in the previous chapters is that of the synergy and emergence of some organizational factors in collaborative structures. In turn, the network evolves over time, according to the laws of emergence. Synergy was previously developed by an effect, a higher

level of knowledge in the network unless we would do a cumulative assessment of the level of each organization that compounds the network. Connecting the organizations generates innovative strength and the possibility of combining the knowledge through the exchange of information between the parties. Finally, the network intelligence allows by combining information effectively, the opening to new adjacent possibilities, new alternatives and options for products, services or processes.

In the evolutionary chain of innovative collaboration we could distinguish three types of networks or three stages of development of collaborative communities that succeed cyclically and that split on dynamic spiral branches. These are the ones that I will present further.

RLS - Collaborative network based on weak ties

RLS is the network composed of economic entities that have a common interest (identifying a common element along the value chain of the product or service) and start to concentrate their activities and exchange of ideas (even if only by searching available information, the current state of knowledge on a targeted segment).

Within this network, it begins to crystallize a smaller community of organizations (identified as nodes of the network) which accumulates knowledge and start to become experts in that area of knowledge. Network in this phase is characterized by weak ties and they prove most valuable at this stage because they allow organizations (network nodes) to access knowledge platforms to which they had access up to a time, due to some limitations. They are low storage capacity required information (material or human), dimensions of organizational or reduced resources. Strong relationships between network organizations are born in areas of common

or familiar knowledge of the organization and partners.

Another factor that favours the existence of weak links is the temporal resource. Maintaining strong relationships between nodes requires usually frequent interactions that become a burden and reduce the temporal resource. Finally, weak bonds allow the identification of new opportunities.

The communication ways between members are those favoured by informal events, reunions, public places like coffee shops, generally by common social spaces and communication solutions offered by the Internet (e-mail, chat, mailing) or telephone.


REP - Network of knowledge experimentation and sharing

REP network type of RLS initiated will bring together organizations and individuals directly involved in specific activities: testing, simulations, experiments and so on, in order to identify directions that will be deepened and extended or, conversely, those who will be excluded from future actions.

Effective communication arrangements are effected directly, face to face, or in real time (video, skype etc..). Leaders arranging connectors and seamless connection and communication in the network can be:

- 👤 **Experts** - those who have the best knowledge about the product, service or process, submitted potential innovations and support other network members to overcome the barriers of frustration resulting from lack of knowledge or lack of accumulation of information.

- 👤 **Catalysts** - those who have average knowledge, but have personal skills to connect people, being able to generate and manage links between network nodes and overcome barriers formed by different skills of men.

 **Mediators** - those that focus on overcoming primary barriers, on reserves that employees have in new situations with partners outside their organization. Mediators create and transmit an external perspective, interorganizational.

Another mode of communication used for both interorganizational collaboration patterns and between work points is to create a standardized information format to increase the organization's ability to achieve superior results embarked on a new structure.

A collaborative network built on a "liquid" environment to facilitate communication unifies different types of communications into a single structured process.

RIV – The innovative and sharing network of a common vision

RIV Community is the result of restricting the REP structure. The role and activities of the launch and capitalizing of ideas transformed into specific innovations to these communities are streamlined by restricting the membership structure to members that will produce and develop new perspectives underlying an innovation.

Moreover, from this network we will claim also the organization that will capitalize on market innovation and will focus on economic and financial matters and on the economic efficiency of the investment. The principles of communication and interaction between members of the network are influenced by the appearance of sharing benefits and costs of the investment in question, innovation being launched on the market. Of course, there are many cases, some highly publicized, in which organizations that have exploited an innovation did not participate in any of the developmental stages of the innovation ecosystem, but have mastered the final principles of innovation and, by trade skill, obtained

fortunes from their exploiting on the market.

Communication mediators used within RIV facilitate permanent connections, and information is processed in real-time systems more or less successful by *Network Intelligence*. RIV connectors' leaders have a role in the communication of new ideas, processes or technologies intuited in the network, the results of tests made and the viability of further research in certain directions. The message communicated must maintain employee engagement and define achieved innovation as a key factor to the success of the network. Leader's skills are psychological, related to the capabilities of transmitting targets and opportunities related to the production innovations and to the manner they communicate to employees why they should be involved.

Leader's communication oriented towards innovation should include stories and application development for customers, research partners and other stakeholders (Mast, Huck și Güller, 2005). Using examples and simple and easy to understand graphics or images and data help employees understand what is innovation. Leadership communication should define a reference framework for innovation (Mast, Huck și Zerfass, 2005).

In conclusion, leader's communication is based on: a) a cognitive dimension (about innovation and its effects), b) affective dimension (motivation and vision sharing) and c) conative dimension (participation and information transmission network).

DYNAMICS OF COLLABORATIVE INTELLIGENCE NETWORK

The initiator of the network can be, if I try to enclose him, a promoter for all collaborative models identified through research paradigms described in the second chapter:

1. an organization looking for solutions to improve its products or services or trying to propose a more personalized service to its customers;
2. an individual or employee in an attempt to deepen or to streamline a characteristic or an organizational process that will interest around him entities only through the action of free will;
3. an individual or an employee who will polarize associates and partners in an attempt to develop his ideas on a natural way considering the various social and spatial proximity.

In shaping the collaborative network, there usually succeed several stages controlled by company:

1. In a preliminary step, it clarifies the expectations of end-users, and the economic or scientific environment is scanned in order to identify potential sources of polarization of knowledge and innovation;
2. As co interested organizations engage, partners expectations distinguish, financial or not, these are structured in two phases: a) current benefits and b) further benefits in the case an innovation capitalization on the market. During this stage of contractual nature, catalysts of the network, usually employees of the initiating organization, have the role to identify and analyze partners' expectations on short and long term.
3. A further step is the organization of the network strategies: establishing coordination leverages network and allocation of tasks and responsibilities (clarifying the role of leadership, reporting protocols for the activities initiated, etc..)

In a last step, the collaborative network setup, I would include the establishment of its identity in terms of stated goals and objectives, based on the complementarity of the partners, but also its limitations and inequality.

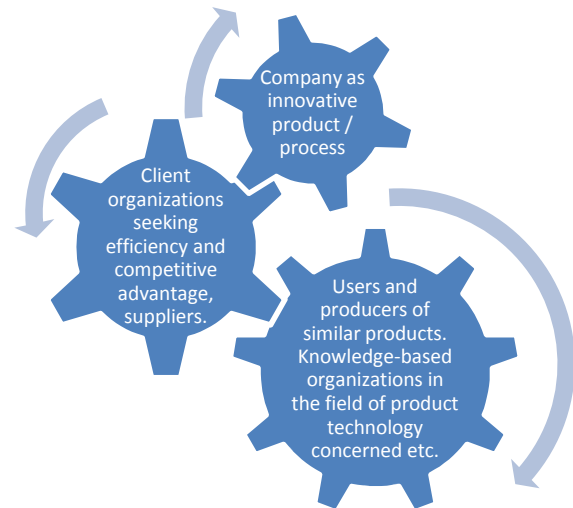


Fig. 1. Organizations and the mechanism of the network involvement

CONCLUSIONS

Theoretical approaches regarding communication practices on innovative ideas in the external environment tend to crystallize a set of rules for shaping the message, pointing trust and reputation and, on the other hand, managing relationships with external stakeholders (Mast, Huck și Zeffass, 2005).

In general, process innovations are invisible in an organizational environment or from external stakeholders perspective. However, they do affect the employees and therefore, these present a special challenge for the communication. (Erlbaum, 2007).

On average, institutionalized communication campaigns and programs are needed to create and understand the interactions of innovations in organizations with relevant stakeholders. This requires certain techniques of public relations, internal and formal communication and market communication (Mast și Zeffass, 2005).

At the organizational level, each manager can contribute to the innovation process by mediating meaning of asymmetrical social relations. This includes personal relationships outside the

organization, such as the specific guild or political groups, but includes also the most important task: leadership communication directed to employees. The factor that determines the separation of a new dynamic community, this time with a reverse evolutionary structure (starting from the innovative network to the collaborative network based on weak links and sharing of interests) is represented by the mechanism of dissemination of ideas developed by the innovative network.

As a simple example, interorganizational innovative model for wood drill bit can incorporate end-users in the network as electricians, carpenters, plumbers and other professionals. This allows the separation of the network from weak links of two branches that will determine the establishment of two distinct networks of experimentation and sharing. These networks turn whereas in actual innovation networks and have as a finality their launch on the market of two innovations of the same product, changing identical or similar characteristics.

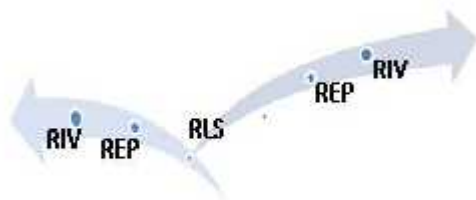


Fig.2 Detaching from the weak ties network of two distinct branches

Innovative collaborative network is incorporated into the ecosystem of community and constitutes the core of this system. These structures that work together as a generator of innovations can extend into an infinite helical structure in branches accessing various and multiple platforms of human knowledge.

An innovative cycle that ends gives knowledge to other networks (usually structured by weak links), each solving specific problems related to the skills they

have. This is the spiral model of innovation.

I tried to capture in the following figure a more plastic than fair representation of how an innovative ecosystem initiates in another (Fig. 3).

The variability of some elements is not captured faithfully in the graphic because some innovative ecosystems carry their processes on larger or shorter periods of time (aspect represented by the verticality and length of the arrow), many initiated from information or knowledge of an innovation network (RIV), while others are initiated through intermediate stages of evolution of another ecosystem. Also, the succession of the three stages of initiation networking with weak links to the final innovation, may fall within the same sphere of knowledge or discipline, but most of the time, innovations are born from the collision of two (or very rarely more) knowledge platforms and even disciplines.

High levels of connectivity and "liquidity" of the collaborative network promote the clash of ideas printing an enhanced dynamic process of association and combination of ideas. For this reason, the direction of development of an innovative ecosystem can be absolutely random. The field or the knowledge platform in which will combine the initial ideas are not known in the preceding stages of the process developed in the ecosystem. Therefore, the sequence of knowledge platforms in the chart presented is subject to the laws of chance.

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TABLES AND FIGURES:

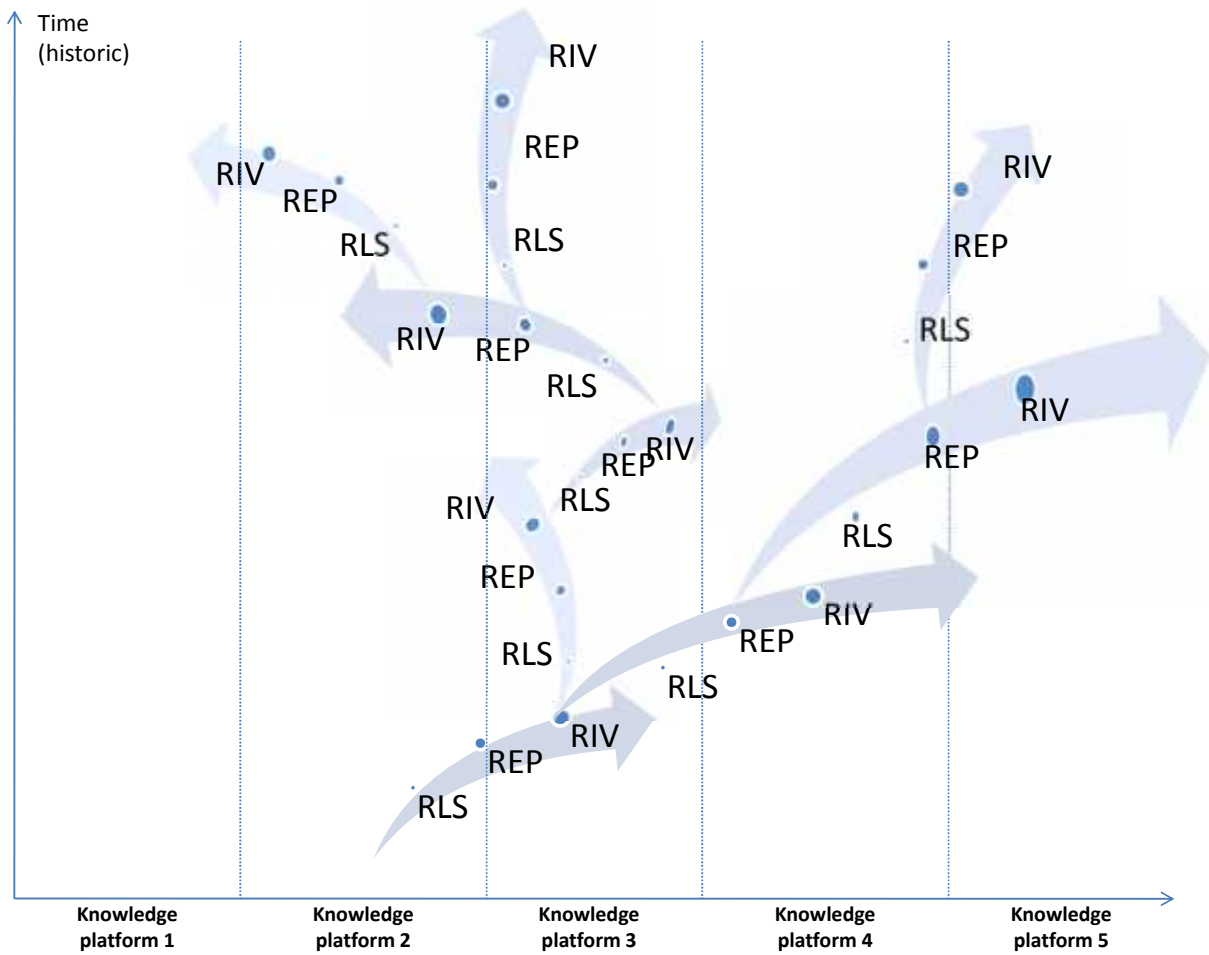


Fig. 3. Food chain of innovative ecosystems
- chaining the three types of networks and knowledge transfer: RLS (network of weak ties), REP (network testing and sharing knowledge), RIV (actual innovation network)