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CONTEXT AND DIVERSITY IN THE COLLABORATIVE STRUCTURE

Viewpoint and
replies on
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Abstract

The interpretation of information in collaborative structure is achieved through the existence of a common context. One element that we propose in this article is the "commercial filter" as an essential factor that can support a research of a collaborative innovation process. Researchers approach until now points out in structuring the collaborative networks the economic organizations as main initiators and participants. Organizations will shape the structure and process of creating and utilizing innovations in terms of their purpose: to achieve economic results related to profitability, outcomes necessary for shareholders remuneration. In addition, this perspective of "commercial filter" allows to be selected and used only those innovations that will be considered profitable by the organizations involved in collaboration.

1. Information utility

The last 20 years have marked an explosion of cultural knowledge storage and external storage capabilities. Simultaneously, there has developed a theory of information that treats information as a commercial product and measures it in bits. But the biggest drawback of this approach is to address information in terms of quantity.

At the level of common sense, the amount of information that an organization

holds and the amount of information exchanged with partners of a collaborative structure placed outside a context, has no relevance in terms of actions performance of innovation that can be induced. I mean the transmission of information in collaborative structure is not relevant in terms of measuring the bit, but in the contextual perspective.

Within a collaborative innovation process involving Expert Moldova Trading Company, on the level of implementation of the idea, within the community the following two messages were sent:

1. „If you are not contacted via Skype tonight, the software platform will remain in the finished version, and you can implement it tomorrow morning.”
2. Within a videoconference, there has been presented visually one line of code, written by a programmer for the software platform.

The first message transmits complex information, which involves triggering a series of complex actions, even though it is measurable by a single bit of information: the achievement or failure of contact via Skype. The absence of contact triggers a series of complex actions aimed at installing the platform through a series of tests, settings and configurations. Thus, first communication encodes the message and causes accessibility of the information from a specified range of possibilities.

The second text message transmits tens of bits and can only be interpreted by the developers participating in the videoconference. The message sends to developers much more information than it is measured in bits according to the principles of information theory.

The utility of a product or service, the efficiency of an organizational process are also perceived by the senses: involves processing of input data (characteristics, procedures) and extracting a sense of

functionality for the consumer or organization. The way to perceive the usefulness and effectiveness must be built and modified as they develop the collaborative network.

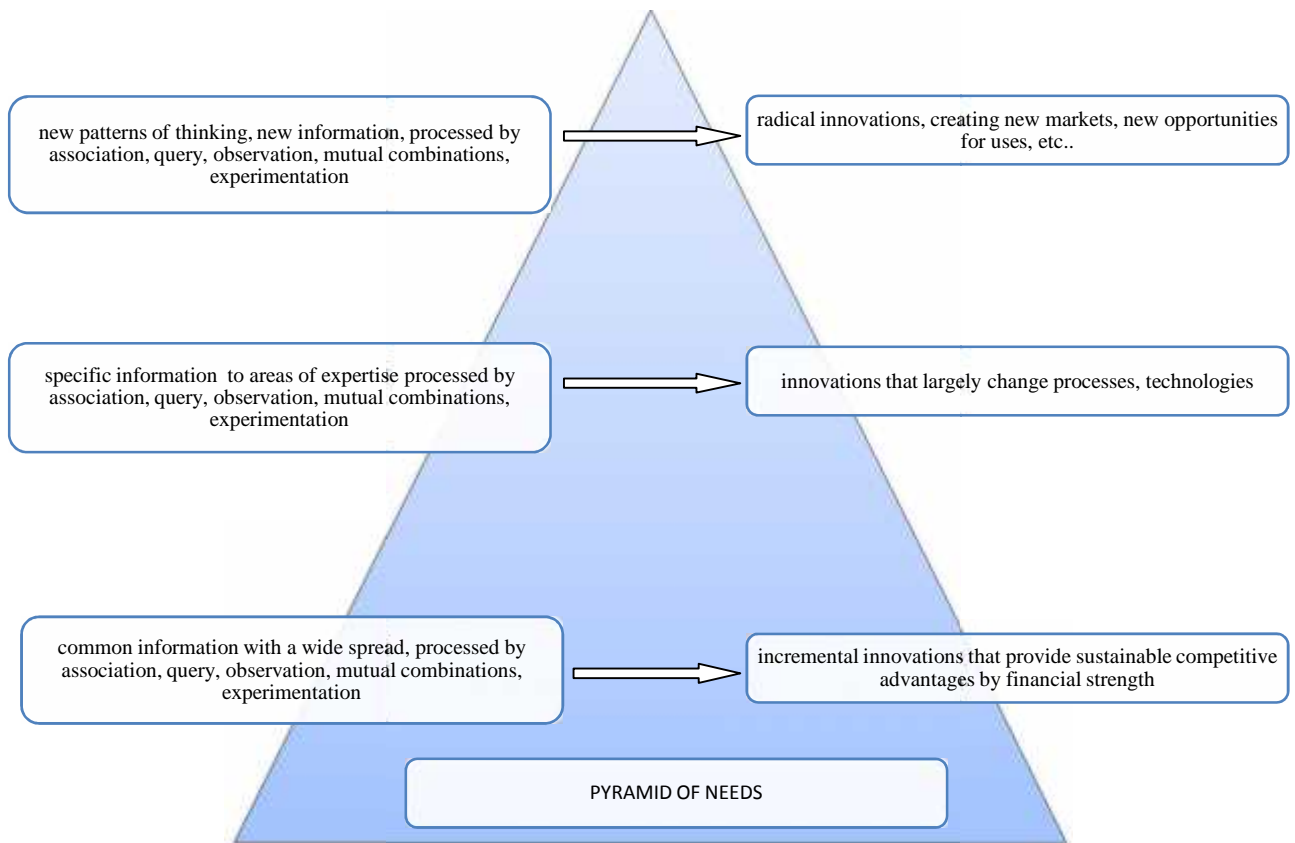


Fig. 3.1. Utility filter between the production and release of collaborative innovations

Products, services available at a given time and processes undertaken in organizations can be innovated or combined in new

modalities developing the perception capacities of actors in the network by **exposing them to different contexts**.

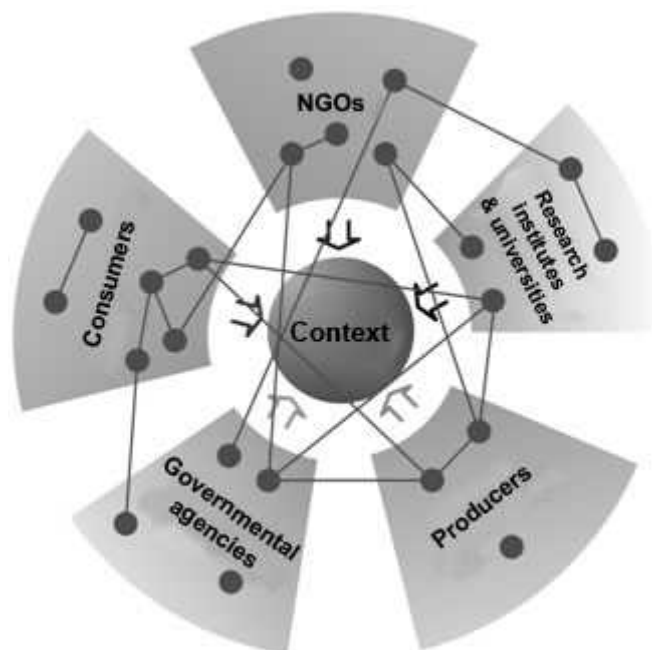


Fig. 3.2. The involvement of different sectors of society in collaborative innovation induced by a specific context

Information, as input, is extracted and processed in the collaborative structure through associations, queries, observations, mutual combinations, experimentation and incorporation into processes or products. One can imagine a parallel with the approach of Newtonian physics: information is a material body and is modified, moved, combined under the action of energy flows. These energy flows are generated and routed through interaction lines within the network by individuals. In the final stages of capitalizing innovation, flows are augmented by another type of energy: the financial one.

2 Diversity

The executive of a company, as part of a hierarchical structure of classical management develops networks outside the organization for two main purposes:

1. access to resources needed by this or by the company and
2. accumulation and identification of the opportunities concerning the personal career evolution and development.

The orientation of these leaders in setting up a network will be directed towards the inside of their complementary organizational entities: to individuals that are on the same hierarchical positions or resemble them structurally and psychologically. It's about people who have the resources, power, influence, position, etc. A similar mode of development is specific to Masonic orders. We cannot speak in this case of collaborative structures founded on knowledge.

Contrary to the classical executives' approaches, organizations or individuals with a catalytic role in collaborative structures develop networks, placing in their nodes persons from different areas of knowledge (knowledge platforms) to expand the perspective on their own knowledge. They dedicate their **time and energy** to finding and testing

their own ideas in networks composed of various entities. They shift to organizations different from their own, to entities having or not a level of expertise, placed on various platforms of knowledge or which are distinguished by perspectives or complex visions.

Dialectical research approaches relate the abundance of information and knowledge spread in a collaborative structure network type, generating a potential for increased innovation. Conceptualization of this relationship is accomplished by theorizing influences, factors and generating variables of the collaborative constructs and also by mediators in modelling "liquid" environments, allowing easy flow of information and knowledge between the actors involved.

A large size network does not implicitly assume the existence in the community of a large volume of ideas and knowledge that constitute great potential sources of innovation. Some approaches of innovative processes and collaboration revealed the existence of realities empirically tested and defined by relating concepts such as:

1. Innovation as a result of creative ideas derived from different ideas recombination. (Johnson, 2010)
2. Innovation derived by intersecting several different knowledge platforms. (Johnson, 2010)
3. Innovation as a result of access to multiple technologies. (Johnson, 2010)
4. Effective collaboration as a result not of a great number of contacts, but of a suitable structure of contacts (Morten, 2009).

Starting from these interlinks of concepts, for an inter-organizational collaborative structure is evident that a high *diversity of the network corresponds to increased innovation potential*.

Analysis of EMEA marketing department - Newell Rubbermaid located in Munich, revealed a number of 40-50 external links with various organizations located in different technological areas (materials science, research institutes, various owners of patents and innovations in various fields, etc.), links that provide concrete information about the network's diversity with collaborative and innovative potential.

A possible **indicator** for evaluating diversity could be provided by a ratio of the number of different knowledge platforms accessed and the number of connections with different intensities within the network. The higher the report platform / number of links is, the higher would be the potential for innovation of a network (network initiating firm) in relation to others.

$$D = \frac{S}{r}$$

The notations used designate:

D - diversity indicator

S – the number of different spaces (sectors) of knowledge

r – the number of relations between network actors (organizations or individuals)

Newell Rubbermaid Company allocates human resources to posts of catalysts having the role to create and improve communication channels with the external environment, able to identify innovative ideas and mediate collaboration networks. Leaders with catalytic role of inter-organizational networks are not only claimed among the executive, but can also be found on many levels and in various institutions:

1. corporate innovators,
2. small entrepreneurs or promoters by SMEs,
3. individual innovators of the product,
4. individual innovators of process,
5. NGOs,
6. universities and research institutes

The sources and influences of diversification through platforms for collaborative knowledge of the network can come from: a) different educational funds or b) circumscribing different cultures of some industry, or functional positions that include individuals with different social characteristics (age, ethnicity, cultural training, etc.).

The affinities' focus as catalytic for Iulian Constantinescu, Country Manager in Romania for Irwin brand, were learning and the common interest of distributors. The demonstrative caravan, held twice a year and conducted for about two months, consists of punctual presentations, performed through interactive demonstrations, carried out by end users that are served by regional companies representing Irwin. Each stop at a final client company had polarized one team comprised of representatives of the manufacturer, the distributor and the consumer.

The leader, Mr. Iulian Constantinescu acted as a trusted mediator that connected these teams at a global network, active, of interorganizational innovation. More efficient creative ideas, technical improvement in case of malfunction, identifying technical possibilities for improvement or adaptation of the product suggested by the consumer company representatives, could become work items for future Irwin products' innovations.

The ethical values promoted by Iulian, encouraging those with vision, transparency and openness to the contribution of everyone, are the basic principles governing the collaboration.

In the context of globalization, dynamism and acceleration of knowledge,

changes occur not only in consumer's behaviour, but also to companies,

generators and users of knowledge in general. Redesigning business processes in order to facilitate an innovation climate, the use of knowledge, modelling techniques and storing knowledge in different repositories (data warehouse), aimed at handling not only the knowledge about a business process, but also the knowledge created and applied (innovation) in processes.

In a statistical study published in 2011 (Serghie, 2011), we evaluated the importance of staff diversity in terms of including two generations separated from the events of 1989, moment which marked a drastic change in lifestyle and rules regarding people's identity in society. The

importance of the study consisted in added information and knowledge gained in employment and labour management in order to create the framework and the environment that would promote the clash of ideas and the access to adjacent possibilities of organizational knowledge. This study was focused on the analysis of a specific set of values defining a culture and an environment favourable to innovation: creativity, management, sense of accomplishment, ambient, supervisory relationships, lifestyle, aesthetics, prestige, independence, variety, economic results, and intellectual stimulation.

I published the study in "Timisoara Journal of Economics" (TJE), no. 13/2011, CNCSIS B + category and bears the title „WORKFORCE MANAGEMENT TO INNOVATE, AS A DRIVER FOR ROMANIAN DEVELOPMENT”. The version online in Romanian: <http://www.tje.uvt.ro>, article „Managementul inovator al for ei de munc , vector al dezvolt rii României”.

The hypotheses of the study were:

1. Are there significant differences between the values of Generation X (1965-1984) and the Millennium Generation (1985-2000)?
2. Are there significant differences in values between male and female?
3. Are there significant differences in values regarding ethnicity and interculturality (Romanian, Hungarian Roma Machidon other nationalities inhabiting)?
4. Are there significant interlinks between the values that favour the development of the innovation environment in an organization and the sets of values from the hypotheses 1,2 and 3?

The study is quantitative, it measures cultural values of labour, social influences on generations of work and examines the characteristics of an organizational environment that facilitates innovation under the influence of generational workforce diversity.

I considered the diversified workforce as an independent variable, and as dependent variables: workforce skills, recruitment and retention, professional development, benefits and rewards, cultural change.

The conclusions of the study, with influence in the present research, are:

- ▶ Generation X generally focuses on job stability and on the existence of clearly defined organizational rules;
- ▶ Millennium generation is concentrated on a competitive work environment, professional development, therefore on the financial aspect that can provide them a certain social status;
- ▶ The innovative character of an organization depends on identifying those factors that motivate each generation in part;
- ▶ A key to stimulating innovation consists in creating a positive work environment. This environment focuses on providing training programs and various other forms of professional development and it is based on an open system of employee evaluation results;

- ▶ If they have more autonomy, employees make decisions more often and take initiative;
- ▶ A participatory workforce also presents several creative solutions;
- ▶ Employees that participate the decision making process (especially if it relates to control his own work) tend to be more satisfied and more engaged, which results in an increase in the innovative spirit within the organization;
- ▶ The organization should tolerate risk. Creativity involves the emergence of mistakes, and employees who are afraid of being punished for their faults will not be creative and innovative.
- ▶ People with a highly developed sense of humour are usually more creative. In some cases, humour can provide the ability to think creatively and identify innovative solutions to old problems;
- ▶ The work environment where is encouraged a sense of humour stimulates creative problem solving skills;
- ▶ Generation X can be motivated through benefit packages such as health insurance, pensions, etc. ;
- ▶ Millennium Generation can be motivated through benefits such as training programs, recreational programs;
- ▶ Any stimulus plan must also be customized to meet the unique needs of each individual and make him creative;
- ▶ The leadership style must be adapted to each organization: a) an authoritarian leadership style based on clearly defined rules and regulations for employees belonging to Generation X, b) a flexible leadership style should be adapted to Millennium generation that relies on open communication and generating ideas;
- ▶ Employee's force of innovation is a function of competence, motivation and environment;
- ▶ This research should be conducted differently in each socio-professional category, the innovative environmental idea can be applied equally to all categories.

The approach of the study was to inform the management, not only in the area of direct coordination of tasks, but also for the specific use of information technology, for defining learning styles, communication styles, for designing job and environmental characteristics and for the supervision of employees directly or indirectly. Knowing these elements will provide the manager the identification of a) the best surveillance methods to be used in relation to each specific generation at work or b) the necessary changes in culture and structure to winning talent and innovative ideas, as well as retaining the best employees in the coming years.

In order to maintain organizational efficiency with this diverse workforce, the current culture of the organization must evolve to meet these different values, attitudes and behaviours.

3. Global indicators of diversity estimation (proposal)

To analyze the diversity of collaborative networks, the analyst must first decide what factors are considered by the community members according to the objectives of innovation, within the process of diversification:

1. access to different technologies from those of their organization,
2. access to different levels of expertise,
3. access to different models of creativity differentiated age categories, sex, nationality, etc..
4. contact with a specific type or different typologies of customers, producers, marketing agents, etc..
5. contacts with individuals having different social lifestyles etc.

For the evaluation of diversity can be used a ratio between the level of diversification induced by a factor and the size of the network:

1. the network size is measured by the number of links connecting nodes,
2. the level of diversification of the network is measured by a value provided by the factor considered (number of different spaces of knowledge accessed in the network, the number of differentiated creative models etc.), (Morten, 2009).

The report relativizes the number of dimensions of diversity in network size.

If it is desired to measure the diversity through several factors, a global indicator of diversity could be the sum of partial indicators. For example, assuming a collaborative network with the purpose of innovation on the marketing segment, we could include the following three dimensions of the diversity indicator:

$$D = \frac{It}{L} + \frac{Ic}{L} + \frac{Im}{L}$$

In this relationship, I noted with It the number of links connecting various technologies, with Ic the number of links connecting different creative patterns, with Im the number of links to various marketing agents and with L the total number of links within the network.

The higher this indicator is, so there exists a greater potential to achieve superior performance within the network.

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