Abstract

Network is a reactive and flexible business system. Therefore, network business more like an ecosystem than a machine. The ecosystem is adapting, commands mutations and changes depending on environmental trends. The mechanism works based on a set of strict rules, rigid programmed and adaptation depends on the reaction of the control system. For ecosystems, the adaptation resulting is in real-time. For mechanisms, the adaptation is out of phase and synchronization with environment requires reaching controlled a determined pace. In the first case, the emphasis is on positive feedback, which stimulate changes. In the second case, the emphasis is on negative feedback, which stabilize the system.

1. Introduction

The complexity of the business world requires new, intelligent forms of organization, with more self-organization levels and evolutionary flexibility. The network is an intelligent form of organization of the „auto generated“ growth situations, by simplifying the flexible circles of adaptation at the real complex environment, using minimum connectivity rules and acquiring a larger volume of individual and associated knowledge. In fact, the network represents a very effective way of growth in terms of costs, time, risks control, and especially of the variety of the options and rapid access to new skills (Malarewicz, 2008).

There are two compulsory conditions for creating a network:

1) The ownership by the organization of a significant evolutionary intelligence that allows it to actively develop based on constructive learning, transforming ideas and concepts into opportunities for growth;

2) Identifying in the organization environment some connections (relations) characterized by a significant capacity of creating opportunities for adaptation, reducing the internal and external complexity of the organization.

The network becomes possible when the organization discovers the partners that may be useful and holds the knowledge that can be exploited as a sustainable advantage. Network means to know how and to have with who (Donnadieu and Karsky, 2002). In terms of the value network, this means knowing what the customers want and how they can be satisfied in an original and attractive way on the one hand, and finding the partners who can...
contribute with resources, competencies and performance able to help in increasing the value promised to the clients, on the other hand. But, in order to strengthen and perpetuate, the value networks need to develop a climate of trust between partners and functional co-involvement mechanisms (Atkinson and Butcher, 2003).

There are several reasons that justify the value network as growth strategy:

1) The current business world is so complex that no organization can exist and grow only by itself, in a self-sufficient manner. Complexity requires organizational schemes able to capture the emergent nature of growth situations and, in this context, the challenges of innovation, co-evolutionary learning, knowledge management and adaptation through self-organization.

2) Value networks present an increased effectiveness in treating the variety and dynamism that characterizes the environment of the organization, adapting the organizational behaviors according to learning and knowledge accumulation.

3) Value networks are characterized by a variable and pulsating „geometry“, being able to make quick self-corrections, generating new connections when certain partial circuits fail. There are systems that learn to „auto repair“ creating new connections and, thus, demonstrating great flexibility.

4) Value networks do not manage knowledge in a linear and sequential, hierarchically coordinated way, but generates it simultaneously in its areas, and spreads it rapidly throughout the system, adapting better to the structure of reality.

5) Being based on co-involvement and consensus, the value networks are more prepared for anticipating and dealing with pre-crisis, crisis and post-crisis situations.

2. Networks function “on the edge of chaos”

A relevant feature of the value networks is the superior self-organization ability based on learning and collective innovation. Value networks incorporate more knowledge than the simple sum of intellectual capitals held by the members. This multiplication of knowledge is, in fact, the source of the increased capacity of self-organization. Of course, network’s functionality is greater as the members are closer in terms of the ability to absorb knowledge from one another. This type of compatibility ensures not only the fluidity of learning and dissemination of knowledge in the network, but also the coherence of the communication between partners, which facilitates, in its turn, the innovation processes (Argyris, 1995). For this reason, the networks must find effective ways to motivate the members to share their knowledge with the other partners and, at the same time, to capture the skills of the others, setting up a collective environment for learning, knowledge and innovation.

Network’s intelligence is an adaptive one in the highest degree. A network of value is truly valuable if it can create within it a multitude of interconnected virtuous circles of „formal knowledge wheels“ nature. These „knowledge wheels“ are circular processes, constantly renewable, with the following general structure: the individual application of knowledge and experience – the discovery of new practices through dialogue with partners – the acceptance and standardization of practices by most partners – the validation and integration of practices by the entire network, etc.

How does a value network really work? Chaos theory provides the necessary concepts. The network’s functioning is subject to the following central concepts: chaos’ limit, time’s limit and accelerated rhythm. This „borderline“ existence is based on the premise that markets fluctuate constantly and technologies advance continually. In the real world of business there is no static equilibrium, but only a dissipative equilibrium, which manifests at the boundary between a certain order and the emergence of disorder or chaos.

The network presents a loose structure, with few rules, ambiguous priorities and often diffuses command chains. But precisely this organizational solution facilitates the absorption or decrease of complexity, as it generates growth creative spaces permanently located at the limit of order (Kauffman, 1995). By virtue of its flexibility, the network forces this limit, tries to expand it, producing cooperative synergies and, simultaneously, individual success for its members. This apparent duality is solved with the co-partners’ adaptation. On the other hand, it is very difficult to organize a systematic collaboration when business opportunities are ephemeral. Under these conditions, the experiences, the openness to new and even luck become critical factors for success. Always placed between stability
and change, the value network develops more complex and adaptive collective behaviors than the individual behaviors of its members. The preferential tools of the value network’s management are located in the following areas:

- The awareness of the complexity of the action context in all its three relevant aspects – diversity, uncertainty and turbulence;
- The ability to permanently face the chaotic outbreaks by creating an inexorable flow of competitive advantages which, as a whole, imprints the system a quasi-coherent strategic direction.

In business, the sources of growth need to be explored consistently and rigorously, as opportunities have a very short lifetime. In many cases, planning an action is performed on the basis of some partial or even summary information. The effective value network manages to achieve the balance between a deterministic planning and the chaos of some ad hoc reactions, with the help of a clear, but simple vision of the future. This view stems from a deep understanding, almost esoteric, of customers’ expectations and from the formulation of an unmatched value proposition (Auger, 2008).

That is why it is much easier to follow the events rather than influence them, especially when the future seems unpredictable. There are few business organizations that move in real time. But precisely this rhythm in real time is the most influential element when it comes to competition in dynamic markets. A responsive and flexible business system is very much alike an ecosystem than a mechanism. The ecosystem adapts, self-generates and, orders* mutations, which transforms it according to the environmental trends. The mechanism works based on a set of strict rules, rigidly planned, its adaptation depending on the command system’s reaction. In the case of the ecosystems, the adaptation takes place in real time. In the case of mechanisms, the adaptation is de-phased, the synchronization with the environment requiring the controlled touch of a determined rhythm. In the first case, the emphasis is on positive feedbacks, of accentuation of change, in the second, on the negative, stabilizing feedbacks.

There are few rules that prescribe how to move among fixed structures and chaos (lack of any structures). The most important refers to the recognition of the moment and the way in which the equilibrium must be broken in order to initiate the change or even to determine it in advance. In the context of turbulent markets, time cannot be wasted with diagnoses and ex-post analysis.

The viable value network looks only ahead, long ahead, although the present or the immediate future might seem opaque. Mathematical details do not matter in this case, but the meaning, the general trend of development. The resolution becomes more accurate as the change progresses, and the initially blurry shapes take shape gradually. In a game, the strongest advantage on the opponent comes from the ability to make the rules of the game, to be the first.

The leaders in innovation, those who open new markets are usually also nodal organizations that animate and orchestrate highly reliable and flexible value networks. These organizations are moving in real time, as they are those who establish the nature of the technological changes and the direction of market’s fluctuations. They are followed by others and do not follow anyone. For these business organizations, the networks they build are nothing but translation tools of the technological innovation in terms of market advantages. As innovation is moving towards other frontiers, the value network’s reconfiguration takes place too.

3. Sources of business networks’ performance

The configuration of the value network is closely dependent on the following factors:

- The rhythm of the technological and market changes that the nodal organization is able to support;
- The availability of complementary skills and capabilities.

The network’s format and composition are subject to the speed the organization can move in the new area, on the one hand, and the easiness of finding the necessary partners.

Complexification means, among others, the desperation of the necessary knowledge for the organization and performance of the business processes. Along with the increase of complexity, the organization is obliged to cooperate in order to access the necessary skills for creating value. The network’s superiority as a form of business organization comes from a mixture of principles, whose application ensure a very high degree of adaptability and self-organization, which can be summarized as follows (Hamel and Breen, 2010):
1) **Diversity principle.** The network is a structure characterized by a wide variety of skills, resources, data, views and opinions. This diversity facilitates the continuous development of some innovative strategic options and stimulates the constant experimentation. The structural and functional diversity of the network represents the source of the superior innovative capacity, as it acts as a kind of backup solutions that can be activated and accessed whenever the strategic context changes. This diversity functions as a „pre-adaptation“ potential of the system in many future situations, which, in certain circumstances, may take place.

2) **Flexibility principle.** In the network, the leadership is highly distributed and the initiatives and innovations can be generated in any area of the network. That is why the network is very reactive and supple, reconfiguring fast based on the signals that may be received in any part of it. Of course, the role of the nodal organizations is very important, but their power is not of hierarchical, dominating nature. They cannot impose in an authoritarian way to the other members of the network. The power of the nodal organization is similar to that of the „coach – player“ in football. This feature gives the network a great deal of dynamism, because it allows the knowledge exploitation of the entire system in the sense of the acceleration of the reallocation of the network’s resources from old projects to new initiatives that can be generated anywhere in the network.

3) **Coexistence of paradoxes and contradictions principle.** The network represents a portfolio of paradoxes, contradictions and divergences, displaying at the same time a very high tolerance for differences. Nodal organizations are responsible before the other members of the network. Likewise, expressing critics and concurrent opinions is encouraged, whatever the sources of opposition are. In an efficient value network, thought and decision processes are very sensitive to the full range of views and interests encountered within the network.

4) **Significance principle.** Any efficient network is driven by its members’ adherence to a mission or a superior beneficial purpose than the simple aim to maximize the profits. Mostly, the network’s dynamism is the consequence of discovering a great meaning. Individuals, and along with them, organizations change only by virtue of the things they care about and appreciate. The mission or the grandiose purpose of the network must transpire even from the value proposition, formulated as original and attractive as possible. The co-optation of the members of the network must be realized, therefore, taking into account not only the skills/abilities they have, but also according to their ability to connect and resonate with this purpose.

5) **Multiplication of the chances to success principle.** This principle is the synthesis and the cumulative effect of the first four. The network is a vibrant and challenging place, impregnated with creativity. By virtue of its characteristics, the network attracts the original, creative and dynamic, offering them the possibility of combining skills and talents in extremely varied and productive ways.

4. **Conclusions**

Whenever the need for some multiple simultaneous connections and some interdependent and participatory workflows is outlined, there appear the favorable conditions for configuring the networks. In such cases, the cause-effect relations are rarely linear and straightforward, and the consequences of the actions have always a cumulative nature. Networks are based on a „crossed causality“, being at the same time a way to understand how spontaneous and self-organized systems behave. Organizations are subject to changes, develop and disappear only as a consequence of network effects and positive feedbacks that take place within the networks the organizations are part of. The networks represent systems with a high degree of interconnectivity of the elements, the order of the network being the result of some inherent characteristics (emergent properties) of this and are not due to any external interventions.

The self-control property of the value network is explained by the fact that it is an open system that learns, adapts and self organizes continuously, depending on the priorities dictated by the creation of value for customers. Networks not only adapt to the environment in which they operate, but they contribute actively also in its creation and reconfiguration. This is because learning means dynamic adaptation to the multiple environmental changes. Essential for understanding the complex way of how the network functions are the awareness of the limited, partial character of the order within it. The mixture of order and disorder, even if the accuracy, predictability and controllability of the system are sacrificed, gives the network greater flexibility and superior reactivity, compared to
other forms of business organization.

In complex systems such as value networks, errors are found only after the events took place. These systems lack the behavioral accuracy, hence some rigorous forecast assessments or at least close to certainty is not possible. Instead, construction is possible, based on dynamic learning from action, of some behavioral scenarios and their constant updating. Complexity simply does not tolerate stable equilibrium relations between the organizations and their environment. This leads to the failure of linear forecasts, of extrapolative type. But as management must be future oriented, managers themselves must accept the natural order of things and be open to issues that cannot be fully known or predicted exactly, to enhance the strengths of the organization and, simultaneously, prepare it for crisis, coincidences, events, etc. From this behavioral balancing results the strategy of the value network and of the component organizations. Significantly, the network’s strategy is not deducted gradually from accurate predictions of the future evolution of the main variables of the business, but is created in an interactive way through integrating visions of the future, expressed by scenarios.

References