



Labornet No. 1516

“On the Edge of Chaos”

Dear All,

Chemist Ilya Prigogine (1917-2003), who won the Nobel Prize in Chemistry in 1977, is recognized as the main representative of chaos theory, also known as the theory of dissipative structures. Prigogine (1985) states that "the world does not follow the clock model, predictable and determined, but rather has chaotic aspects; the observer is not the one who creates the instability or unpredictability with his ignorance, they exist by themselves, a typical example being the weather".

In fact, the fundamental concepts of space, time, matter, object, cause and effect change. These remarks go hand in hand with the notions of quantum theory, which discovered that atoms were not, as was then thought, solid and hard particles, but rather spaces and a nucleus around which electrons moved. Later on, it was discovered that subatomic particles (electrons, protons and neutrons) were not solid, as described by Newtonian physics. In fact, it was found that this subatomic matter *exhibited duality depending on the experimental circumstances, so sometimes it behaved as wave, and sometimes as particle.*

Chaos begins to be seen as a new way of approaching what surrounds us. Chaos allows us to see the world as a whole, as an infinite network of relationships, in which each element is connected to the whole. Let's explain this aspect with the following story:

Hock had read about the Santa Fe Institute and its work in "On the Edge of Chaos": the notion that healthy, adaptive systems will always exhibit a kind of dynamic tension between chaos and order.

It fit in beautifully with the dynamic tension that he'd set up in Visa: encourage as much competition and initiative as possible throughout the organization – "chaos" – while building in mechanisms for cooperation – "order".

In chaordic systems, in Hock's view, "order emerges, structure evolves". "Life is recognizable pattern within infinite diversity."

So organizations are more organic, more like a living, changing and dynamic entity where each part, however small or insignificant it may seem, plays a primary role in their perfect functioning.

I think that Hock orients his thoughts towards the importance of each person, each process, each instrument that interacts in an organization and conceives it as a whole. For him, it is not a company in chaos, which is disordered and non-functioning.

As events fluctuate between chaos and order, uncertainty and complexity, rapid changes present new challenges - synergy with which the new balance (order) is created.

The metaphor of the black swan refers to the fact that these elements show the need for new concepts of leadership, applying personal development strategies in order to eliminate toxic elements in the organization.

The epistemological framework was based on contributions by Hock (1996), Taleb (2010). The purpose of this article was to reflect on the importance of the theory of chaordicity and the theory of the black swan, and complexity.

The conclusion is that the black swan theory reveals the need for a leader prepared for chaordic moments, as a model of integrity to avoid a toxic work climate.

The black swan theory or theory of black swan events is a metaphor that describes a surprise event (for the observer), of great socio-economic impact and that, once

the event has passed, is rationalized by retrospection (making it seem predictable or explainable, and giving the impression that it was expected to happen). It was developed by Lebanese philosopher and researcher Nassim Taleb.

Every day management in today's organizations becomes more complex due to the constant changes in the global and sectoral environment, as a result of increasingly competitive, random markets and, therefore, with episodes of order, disorder and chaos.

Marketing in these companies faces, on the one hand, customers subjected to ad overexposure through massive and virtual communication channels with snobbish messages and loyalty strategies, but also extremely tied to changes caused by economic, technological, demographic, political and environmental phenomena, which are the constant in 21st century society, and which in the end affect their decision to stay loyal and effectively demand the goods and services offered.

Amid these scenarios of disruptive, turbulent and uncertain changes, organizations that produce goods or services, which pursue high performance on the market, face the dilemma of continuing with the paradigms imposed by the traditional management approach that emphasizes control, the conservation of order and the conception that everything can be pre-established because the future must mathematically follow the trend of the past, or alternatively break with that tradition to face its permanence and sustainability on the target market with other strategies.

The limited and poor approach of traditional management, uncontrollable events, disorder, uncertainty and chaos, have been considered adverse to the notion of organization, and therefore they must be eliminated from the company.

Every day reality shows that these manifestations of disorder and chaos coexist even in organizations with a high degree of competitive maturity, and are a consequence of the impact that the organizational framework receives from the constant interactions of processes within the organization, as well as with its environment.

This myriad of interactions is difficult to control within the organization, given their intrinsic appealing characteristics, and their power to produce constraints, ruptures, divisions and deviations, organizational tsunamis that, for better or

worse, affect the performance of processes in charge of people exposed to the impacts of environmental, family, corporate, social, sectoral and global forces.

There are many organizations that, in the midst of the turbulence produced by the effects of order and disorder, find more opportunities than threats and take advantage of them to create internal transformations, changes in their course of action and advances in their prospects for improvement and growth.

Now, as organizations are integrated and managed by people (culture, processes and teams) and the expected synergy of the processes acting as components of a system are affected by cultural barriers, the lack of good and healthy communication that leads to, in many cases, the isolation of the members of the organizations, it is right there where it is necessary to manage with a transdisciplinary conception that allows a new starting point, the transversality of communication and the construction of new communication channels, and the strengthening of the necessary emotional link between people and the foundations of the vision, mission and other components of the strategic portfolio of the organizations.

Also included in this approach are those institutions that, due to their nature and human component, are among the most complex and most impacted by social, environmental, economic, political, and population factors.

In these scenarios, the organizations of the 21st century can find in the contributions of complexity, the systemic approach, in the theory of chaos and transdiscipline, a new epistemological framework that provides them with foundations to structure the processes of cultural transformation intended to permeate the different areas of improvement, which supports not only their sustainability, growth and competitiveness, but also, as an ethical foundation, comply with the social responsibility of satisfying the needs and expectations of development and integral well-being that such society, sustainability, and expects to receive as a principle a great contribution of value to the chain to which every organization in a society is due.

Best regards,

Natalia de Diego

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