

COMPLEXITY AND FLEXIBILITY IN STRATEGIC MANAGEMENT

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Abstract: *In today's economic environment, characterized by complexity and volatility, the organization's management must continually adapt its strategy, even if it is designed according to the strategic mission and vision of the organization. However, organizations themselves are complex organisms. In an external and internal environment characterized by complexity, the management of the organization faces the difficulty of designing the strategies, which, related to the environment and the organization, become complex. Practical reality demonstrates that the primary tool that can be used by management in the exposed conditions is flexibility. In this context, the paper focuses on these four challenges of strategic management: the complexity of the environment, the complexity of the organization, the complexity of the strategies, and the flexibility in elaborating and adapting the strategies of the organization. The research methodology is based on the study of references, observation, and own opinion on the treated subject.*

Key words: Environment complexity, organizations' complexity, strategies complexity, flexibility, strategic management

JEL Classification: L10, L20, M10

1. Introduction

The word “complex” can be defined as “consisting of interconnected and interwoven parts” (Van Dijke & Scheele, 2019). The entire world is complex. It may be seen as a sandwich between a view that the world works like a machine and a belief that the world is chaotic, unpredictable, and without structure (Boulton et al., 2015).

There is the explicit recognition that a complexity perspective entails the rejection of assumptions of predictability and control in management,

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and the adoption of assumptions of multiple, interacting self-organizing entities that learn and change over time. While there are periods of stable behaviour and features of the system that function as constraints on elements of the system, the diversity and adaptation of entities creates the possibility for both evolutionary and unpredictable, sudden changes (Eppel & Rodes, 2018).

Nevertheless, complexity is found in any of the activities of an organization. Some authors have addressed complexity in business: in sales and market (Swait & Adamowicz, 2001), in production (Azadegan et al., 2013), in decision making (Gorzeń-Mitka & Okręglicka, 2014). But complexity is also present in other areas, such as medicine, education, or in public organizations.

In strategic management, the most critical challenges are related to the complexity of the environment (Andelman et al., 2004; Cannon & St. John, 2007; Kirschke & Newig, 2017; Tsitaire Arrive & Feng, 2018; Collier et al., 2019), complexity of organization, structure and social aspects (Liu et al., 2015; Kaplan, 2018; Van Dijke & Scheele, 2019) and the complexity of strategies (Stacey, 1993; Williamson, 1999; Boulton et al., 2015).

In complex environments, there is no correct answer, and no one can know the whole environment. The most valuable insight is not the correct one – because no one has such a solution – it is the one that is best able to synthesize many different perspectives on a situation (Leadership in Complex Environments, 2017). The environment provides the fuel for innovation, evolution, and learning (Boulton et al. 2015).

Laroux (2014) emphasised some principles for fundamental shifts in organizational architecture to manage complexity:

- From short term profit maximization to shared purpose and value creation;
- From hierarchy and bureaucracy to distributed and autonomous teams;
- From command-and-control management to enabling leadership;
- From rigid planning to safe-to-try experiments;
- From information and communication secrecy to transparency.

The author also introduced a framework for these emergent structures, labelling it “Teal.” The Teal model has three core characteristics:

- Self-management based on peer relationships rather than hierarchy;

- Wholeness based on bringing the whole person to work;
- The evolutionary purpose at the core of work and emergence amidst complex systems.

To face complexity, managers need to use flexibility to solve problems regarding adaptation and change in strategies.

The cognitive flexibility is a required quality within individuals and organizational cultures, due to the urgency of global problems and the difficulty in making sense of security environment complexity. Any approach needs to be flexible and non-assumptive, developing a continuously growing and deepening understanding. (Lummack, 2017).

Complexity and uncertainty, which characterize the environment in which enterprises are functioning, force them to continuously improve and search for new, often unconventional solutions for shaping decision making processes. It refers both to organizational, technological, and managerial solutions (Gorzeń-Mitka & Okręglicka, 2014).

In this context, this paper is aiming to discuss and analyse how the business organization management is dealing with the environment, organizational, and strategy complexity and, also, to find the answer to the question of why flexibility is the primary tool to face the chaotic elements?

2. Environment complexity

The increasing volatility of the environment due to the acceleration of changes in information and communication technology requires organizations to cooperate with the increasingly complex external environment.

Organizational management, according to Hamel and Prahalad (1994), has to consider four specific areas of the volatile and complex environment to make effective decisions that will lead to competitive success in the future:

- to focus on opportunities and less on the market share gained by developing the skills that capture these opportunities. For example: to invest in new products, brands, e-business, etc.;
- to focus on creating integrated systems and collaborative competences throughout the organization. For example: setting up alliances, mergers and joint ventures;
- to persistently pursue the development of sustainable responsibility and skills appropriate to the new technological achievements of

managers at any hierarchical level. For example, the Internet, digital systems, biotechnologies, etc., even if for a period the profits of the company do not increase;

- to accept the lack of organizational structure or a simple structure.

When the competition's nature is going to change in the complex and volatile environment, as well as the quality of competitiveness, the reconfiguration of new organizational structures in strategic decisions-making of the management is required. Management also needs to consider the skills and abilities of workforce, its flexibility, and adaptability.

3. Organizations' complexity

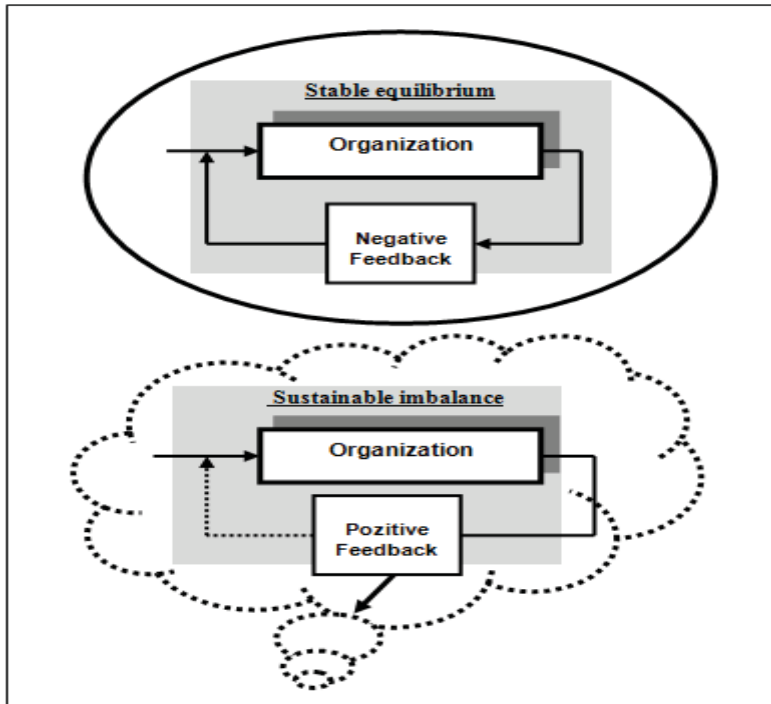
Organizations are complex systems that cannot be actually defined because there are no precise accepted criteria, but several characteristics that make them different from other systems in nature, such as mathematics, physics, etc. can be highlighted, namely:

- they are social systems, where individuals are connected through informal networks;
- they generate levels of structure: sometimes they have a complex structure, sometimes they are multidimensional;
- they have no borders and are continually moving in new fields, industries, markets;
- it changes over time as organizations learn;
- is based on a system of nonlinear relationships;
- the decisions taken have side effects and tertiary effects that cannot be anticipated;
- they exist in the external environment compete and interact with the outputs of other organizations.

According to Mathews et al. (1999), organizations exist in two forms (figure 1):

- in a stable equilibrium determined by negative feedback and
- in a sustainable imbalance caused by positive feedback.

The negative feedback adjusts the actions of the organization. For example: if the budget of a company is flexible through negative feedback, the management needs to make necessary corrections. The analysis of the results against the budget is carried out under real conditions so that the managerial decisions are made aware in a stable environment.



*Figure no.1. The organization forms according to the type of feed-back
Source: upon Mathews, 1999*

Positive feedback amplifies the effect of changes and changes their direction by placing them in a vicious circle. For example, an increase in wages by 20% without being found in the growth of turnover leads to a rise in costs. In turn, these costs lead to the continuous diminution of profit and bankruptcy.

In reality, organizations never reach a stable balance because the organizational behaviour and management bring limitations. Through strategic managerial decisions (for example, investments, prices), organizations temporarily attain apparent stability. As complex organizations operate in a volatile environment, management cannot use forecasts but scenarios based on vague or subtle sets. Sometimes, however, some phenomena can be foreseen, as instability is restricted by the organization itself or by market boundaries (for example, antitrust rules, legal regulations to put barriers to new competitors in the market).

To survive and thrive in the complex and volatile external environment (under conditions of globalization, the European Union, other regional blocs, etc.), organizations must "adopt adaptive behaviour, with some structure, but not too much" (Brown & Eisenhardt, 1998). The key to success in managing an organization operating in a volatile environment is self-organization. The management must focus on hierarchical control systems and procedures, lead through formal meetings with the managers empowered to decide at their level of action, analyse the results, impose actions for efficient allocation of resources through plans, budgets, and targets to be achieved. The time allocated by managers to strategic issues must increase, and conditions must be created to encourage self-organization.

Adaptive organizations (self-organizing) have, considering Pascale's (1999) ideas, four characteristic features:

- they have many actors who act probabilistically, not hierarchically;
- generates many organizational levels or structures;
- have the ability to recognize patterns and patterns and use them to learn and anticipate the future;
- they shake and die.

Complex Adaptive Systems evolve and change with experience as they "change and reorganize their parts to adapt themselves to the problems posed by their surroundings" (Holland, 1992, p.18).

Organizations operating in a complex environment must face the challenges of constrained instability, which is manifested when an isolated variation of the environment can produce enormous effects (positive or negative). These variations cannot be controlled, but only redirected. For example, rising oil prices cause increasing prices of raw materials, and as a result of products, or lowering prices for vacuum cleaners by one producer causes lower prices for all producers with significant effects on costs and profit, which returns like a boomerang to the initiating organization.

4. Strategies complexity

The dynamic nature of complex systems requires adaptable strategies (structures, guides, and procedures, rules in the context of an external environment that cannot be predicted).

Under these conditions, management must develop skills that enable them to identify valid opportunities and adapt their decisions to market changes.

Amram and Kutilaka (1999) consider that the management of organizations operating in the complex and volatile external environment must follow eight rules to establish the strategic options:

- not to elaborate assumptions about market boundaries, but to permanently rethink these borders;
- to identify strategic opportunities (through flexibility);
- to develop options by continuously identifying the resources entrusted;
- to become more and more flexible (even cancel projects started, if any);
- to design and follow a schedule of actions based on work steps;
- to create options, by changing the direction of abandoning some decisions;
- to establish priorities, focusing on strategic capabilities;
- be ready to conclude contracts through a transparent selection.

Strategy definition focuses on building a portfolio of strategic options. “While companies can focus on executing a single strategy at any time, they must also build and maintain a portfolio of strategic options for the future. Investments in developing new capabilities and learning about new potential markets are required. A new way of thinking about how planning and opportunism interact in determining strategy is needed” (Williamson, 1999).

Starting from the basic idea outlined by Williamson, the author proposes four practical steps for elaborating strategies in the complex and volatile environment: discovering hidden constraints, establishing the right process, optimizing the portfolio, and combining planning with opportunism, comment below.

Discovering hidden constraints

In general, the organization has a stock of strategic resources and capabilities (such as technologies, product and or service palette, process management, after-sales customer services, supply channels, etc.). The seller, if the sale is made through dealers, intermediaries, or final sellers, has a wealth of knowledge in the field of marketing-sales.

Referring to the market, the organization does not have sufficient knowledge in the field of marketing-sales, and the seller has no production capabilities. In this situation, according to Williamson (1999), two types of constraints are identified: the producer (who becomes a prisoner of his capabilities) and the seller (fig. 2).

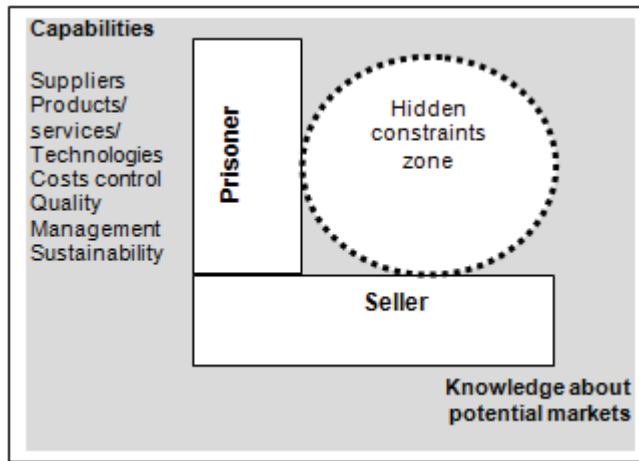


Figure no.2. Hidden constraints matrix
Source: Williamson, 1999

These constraints do not have to be hidden, and management must scan the continuous environment to identify all weaknesses and gaps in the level of knowledge about potential markets and not let the "myopia of the market served" develop (Hamel and Prahalad, 1994).

Establishing the right strategic process

All the weaknesses identified and continuously invented should be the basis for the development of methods for creating missing capabilities, especially for accumulating knowledge about market requirements. For this purpose, the management of the organization must consider:

- the information obtained and the experiences gained from its relations with the suppliers and beneficiaries;
- the information received from the beneficiaries regarding the quality of the products and other complaints, to be treated seriously;

- the information collected about the behaviour of competitors;
- the lessons about organizations that have unconventional behaviour in the same industry and other sectors of activity (problems encountered, how to solve them, experiments on new methods and techniques);
- building and sustaining quality management as a source of development of the capabilities in the system, of creating the values and norms specific to a thriving organizational culture.

Optimization of the portfolio of strategic options

Strategic scenarios are developed, taking into account:

- the cost of creating and maintaining the options;
- the probability that the option will be put into practice;
- the likelihood that the option will develop alternatives in the future.

With these options, you build a portfolio that is continuously monitored and updated.

Combining planning with opportunism

The organization needs a "strategic space" (Williamson, 1999) to develop in the future. Because the environment is complex and volatile, strategic forecasts and plans cannot be accurately elaborated, so the organization will not know clearly what products, markets, and beneficiaries it will have in the future.

The portfolio of options, elaborated taking into account the strategic opportunities that emerge and are identified or intuited, comes to complete these strategic plans, but under restrictions on the strategic directions and mission of the organization, considering the so-called "restricted opportunism" (Williamson, 1999).

Dynamic adjustments allow the management of the organization to redirect resources to a high potential of the activity (business) and to create value through a continuous process of change.

5. Flexibility in strategic management

Change requires flexibility and vice versa, and this virtuous circle creates management problems. The fundamental question for any management

is: "How to apply the management of a discontinuous change without abandoning the capabilities that have led the organization to success?" A right answer is: "Learn to develop additional capabilities to cooperate with change by creating an organizational space" (Christensen and Overldorf, 2000).

These additional capabilities can be achieved through a series of strategic actions, such as: cooperating with another organization that already has these capabilities, developing within the organization these new capabilities, or acquiring an organization that has the additional capabilities needed. Also, in an extremely competitive market and an IT development environment, companies are trying to reduce or save costs, balancing their strategies between internalization and externalization (Doval, 2016).

In the creation of additional capabilities, the organization structure is of particular importance. A strong hierarchical structure leads to efficient control of the changes, but also to the diminishing of the flexibility that is necessary to adapt the organization to the changes of the environment (the market).

The structure of the organization is an essential source of inefficiency (an increase of administrative salaries, an increase of indirect costs, etc.); therefore, the management must orient itself towards dynamic and flexible structures. A flexible structure allows the organization to adapt to changes in the environment without losing its flexibility.

Markides (1999) considers the following three capabilities required to create flexible structures:

- ability to identify change early enough;
- the existence of a culture that embraces and responds to change;
- skills and competences for the competition.

An increase in flexibility is usually offset by a decrease in efficiency, as "increasing flexibility is a zero-sum game" (Volberta, 1998). To increase flexibility without being followed by the reduction of the effectiveness and the quality, it is necessary to consider two determinants: changes in the production of technology and changes in the structure of the labour market (Volberta, 1998).

The changes in the production of technology are aimed at the implementation of the new conquests of science in the field of information and communications that allow the development of customized mass production.

At the same time, in the labour market, there have been profound changes in the structure of the workforce and the approach of the importance of skills and competences. The value of the highly specialized workforce increases continuously, and as a result, individual autonomy increases.

A more appropriate approach to the correlation between technology, environment, and human resources involves "facilitating the organization to participate in creating its environment as an ecosystem" (Hennessy and Robins, 1991) and this, of course, aims to reintegrate the organization into the global sustainable development strategy by maintaining flexibility.

Conclusions

Changing the environment makes markets more individualized, more integrated, or global.

In this complex environment, organizations focus on mass production, on customer-oriented market segments, on specialized products and services, contributing to increasing complexity and uncertainty of strategies. As the environment becomes more complex and requires changes in the organization, management creates structures, functions, and activities, which increase internal complexity, slow down decisions, and reduce flexibility.

For the organization to fit in with its complex and turbulent environment, management must use flexibility in a controlled manner; they must optimally seek strategic options by implementing new technologies, decentralizing organizational structures, establishing the autonomy of working groups, and establishing interactive relationships with its beneficiaries and clients.

This paper presents only a few aspects regarding the four challenges of strategic management, i.e., the complexity of the environment, of the organizations, and of the strategies that find a solution through flexibility. These issues may be subject to further studies.

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