Intelligence organizations stuck in the chaos-complexity dichotomy[1]

Cristian IANCU
PhD. candidate, „Mihai Viteazul" National Intelligence Academy
csd@dcti.ro

Abstract
Understanding today's intelligence (conceptualized as practice, activity, organization, and domain) requires an explanatory model that takes into account several paradigms, chaos theory, decision modeling and systems' theory. Intelligence analysis, viewed as a fundamental step in the intelligence cycle, the main purpose of which is facilitating the decision-making process, cannot remain blind to these new ways of understanding reality. Alas, the systems approach is not just a theoretical framework used for building better taxonomies, but a viable solution to the problems facing practitioners and managers on a day-to-day basis.
Keywords: chaos, intelligence, decision, analysis, system.

Prolegomena

In the current stage of human society, scientific community and *intelligence* specialists are facing one of the most consistent challenges: is it possible to identify, manage, and, if necessary, counter existing and emerging risks amid the social, political, and cultural framework of the 21st century? Is it possible to implement an efficient organizational reform to

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ensure, in our case, *intelligence* structures' adjustment to environment changes as the environment is permanently changing itself[2]?

The debate on this topic is all the more important as the general perception is that of a crisis facing the analytical activity and existing management models, translated as incongruent developments as far as the broader and expert public expectations and predictions are concerned. These developments are seen as strategic surprises or, as Nassim Taleb suggestively defined them, „black swans".

A proof of the cleavage between expectations and reality is the fact that in the expert literature we find a great number of terms with a rather negative connotation, such as „crisis", „breakdown", „chaos", „unpredictable", „turbulences", „disaster", „strategic surprise", etc., that are used to describe contemporary society developments.

Furthermore, the intense way this reality is felt can be observed in the fact that the debate has come to the forefront of media attention, most probably due to the direct impact of different developments or phenomena at individual level. One can mention among these effects the economic crisis or the September 11 events.

The fact that debates on future projections entered the common space had some undesirable consequences that influenced, in our opinion, the scientific debate, namely the focus on sensational instead of applied debate (negative or alarming aspects are put forward), perception shift (exploiting a topic in order to argue ideological assertions, respectively capitalism's crash), and the emergence of false experts or even „prophets" (emblematic in this respect is the success Nouriel Roubini has long enjoyed as he permanently predicted imminent economic disasters that have never occurred).

Another important issue is the increasingly extensive contemporary literature reflecting the efforts to develop a theoretical matrix integrating, in a coherent and complete way, different sets of data, signals, or processes describing present-day reality.

Corroborated with the complex development of contemporary society, the working model proposed by the current theory does not allow us to change the way *intelligence* is perceived, that is more likely as a *tradecraft* component (focusing on procedures and techniques).

[2] A rephrase of Fred Emery and Eric Trist's assertion: *A main problem in the study of organizational change is that the environmental contexts in which organizations exist are themselves changing at an increasing rate, and towards increasing complexity*, apud Bettis, Richard A. and Hitt, Michael A., 1995, *The new competitive landscape* in *Strategic Management Journal*, vol. 16, no. S1, pp. 7–19.

Knowledge is rather considered a physical product by most part of the current analyst community, less material aspects, such as personal or collective intuition, being neglected. That explains the almost general idea that *intelligence* is a support in the decision-making process[3].

The aim of this analysis is to identify inflexion points that can determine vulnerabilities or, obversely opportunities for intelligence in the society model projected along with information technology globalization.

We have started this research from the premise that the current state of analysis and its organizational structures, which are facing a dynamic reality specific to a model at the edge of chaos, cannot be coherently analyzed without taking into consideration the connections with other scientific fields as the theories of decision, systems, and chaos.

More precisely, one should notice that analysis is a fundamental component of the chain of actions specific to the decision-making process and its aim is to propose alternative decisions in different fields of activity, in our case, national security.

Also, taking into consideration the current role of intelligence as an activity aimed at consolidating general and individual level of knowledge, we must look at the organizational management system theories in order to identify, if possible, the specific framework to be applied as part of a functioning plan integrated at the state/ institution level.

The theories proposed over the years to describe and manage different complex systems still have a great potential to substantiate realistic and topical solutions through which transformations required by the new environment coordinates could be developed. The numerous contemporary economic studies on chaos and different experts' answers to these challenges are an example to that end.

The relevance to our research comes from the increasingly significant transfer of terms, methods, and modern tools from competitive business intelligence models that are used by most modern intelligence agencies.

Chaos or Complexity as Organizational Process Shaping

As we mentioned before, in order to create a unitary perspective and bring relevance to assertions regarding the various management forms

[3] Hoppe, Magnus,"The intelligence worker as a knowledge activist – an alternative view on intelligence by the use of Burke's pentad*"*, în *Journal of Intelligence Studies in Business 1* (2013) pp.59-68 available at https://ojs.hh.se/

developed over the past century, we should turn to the original fundamental research that began at the end of the Second World War.

Without being an entirely new domain, the issue of chaos, complex systems, and combined impact of multiple endogen and exogen factors on the human society development and the way we can efficiently answer this challenge began to be addressed in an applied manner in the second half of the 19th century.

The modern origin of the two concepts - chaos and complexity - can be found in fundamental research in the fields of mathematics and physics, namely Henry Poincare's works at the end of the 19th century

They became a subject of scientific debate in the field of social sciences and economics simultaneously with the emergence of various phenomena specific to the period known as "The Great Acceleration". In an exhaustive formula, that period was characterized by an increase in human activities which has not slown down so far.

More precisely, around 1950, one could notice, as statistics show, an increase in indicators reflecting various activities, at all levels, a fact that resulted in a growing information flow. There were multiple causes: democratization and development of open society (in the Western institutional model), technological progress, globalization, and the development of consumer society.

All these have contributed to the establishment of a system of values, information, and knowledge in general whose emergent capacity has triggered an asymptotic multiplication of knowledge in increasingly diverse and complex ways.

The first theoretical works on complex systems date back from that period. Not by chance, economics is the field that has extensively approached the phenomena, involving a large number of factors as the field was hit by the 1929 world crisis and the Second World War.

From the perspective of our research, the relevance of the two concepts is given by their contribution to understanding the impact of current security environment on the intelligence activity. However, one should understand correlations and influences emerging in different stages of the decision-making process in order to figure out the complex mechanisms of that interaction.

Even if, in the intelligence field, issues related to the decision-making process are mostly connected to the intelligence chain, fundamental

research emphasizes a more complex interdisciplinary theory and a series of elements which are sensitive to exogenous, more complex, and numerous stimuli that could influence the decision-making.

Friederich Hayek, a pioneer of modern economic thinking, is among the theoretician who laid the foundation of complex phenomenon management.

In his work "The Theory of Complex Phenomena: A Precocious Play on the Epistemology of Complexity", Friedrich Hayek stresses, referring to "complex phenomena", that the expert who examines the complexity has to deal with a tough choice between the empirically gained experience and experience based on knowledge and theoretical understanding[4].

The distinction made by the Austrian expert between human ability to make predictions about the behavior of simple and complex systems, by modeling, is relevant to analysis.

His 1974 speech at the ceremony in which he was awarded the Nobel Prize, called "The Pretence of Knowledge" is fundamental for economics. On that occasion Friederich Hayek argued that it was impossible for economics and, generally, areas characterized by massive influence of complex phenomena – including, in his view, alongside economics, biology and psychology - to be modeled upon sciences approaching simple phenomena in their essence, as physics. Even if they were not included in the same category by Hayek, social sciences can be included in the phenomena he describes in the area devoted to systems theory, considering that the actions and interactions described above do not comply with predefined rules, being marked by subjective elements.

For that reason, Hayek concludes that, by modeling, complex phenomena allow only pattern predictions, unlike specific predictions that can be made in the case of non-complex phenomena[5]. Hence, the absence of a suitable theoretical distinction between them triggers a dichotomous

[4] Hayek, F. A., *The Theory of Complex Phenomena: A Precocious Play on the Epistemology of Complexity,* in Studies in Philosophy, Politics and Economics, 1967, London, Routledge & Kegan Paul, pp. 22-42., available at http://highmesa.us/Hayek/Theory%20of%20Complex%20Phemomena.pdf, on June 15, 2013.

[5] Hayek, F. A., *The Pretence of Knowledge*, Nobel Prize Lecture, December 11, 1974, available at http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1974/hayek-lecture.html, on June 20,2013.

explanation of complexity, which becomes evident when a category prevails over the other.

Friederich Hayek's research is completed by Edward Lorenz's theory, who in 1963 advanced the idea that the long term dynamics of some dynamical systems (such as those created by joining / merging the system of nonlinear ordinary differential equations that he tried to numerically solve with computer-generated finite precision arithmetic operations) is highly dependent upon initial conditions[6].

As a result, two points that are arbitrarily very close in the system phase space[7] will end up - as the system evolves, and only after a certain period of time - very far apart. The "chaos theory" does not influence reality through precise predictions about events but rather by specifying the dynamic systems and regimes or regions of those space parameters that show the "transition to chaos"[8], in other words, by making predictions about behavior patterns rather than behavior points / hypervolumes well placed in space and time.

Organization from a Systemic Perspective

For the analyst, the impact of chaos is felt at the system level, which is why it requires an in depth knowledge of all theoretical work on which the current constructs are based on.

From that perspective, the emergence of the study entitled "Zu einer Allgemeinen Systemlehre" in which Ludwig von Bertalanffy presented what was to be known as the foundation of the general systems theory[9] was decisive for setting up an integrated vision by assembling several models.

He defined a new fundamental scientific discipline called General System Theory, a logico-mathematical discipline applicable to all sciences concerned with systems.

According to the theory, objects, phenomena, properties, and processes, regardless of their nature, can be considered as systems with a

[6] Lorenz, Edward N., *Deterministic Nonperiodic Flow*. *Journal of the Atmospheric. Sciences.*, 1963, 20, p.130–141.

[7] A phase space is a space in which all possible states of a system are represented, each possible state of the system corresponding to a unique point in the phase space.

[8] According to Edward Ott's paper *Chaos in dynamical systems*, Cambridge University, 2002, 2nd Edition Press.

[9] Ludwig von Bertalanffy, *Zu einer Allgemeinen Systemlehre*, Blätter für deutsche Philosophie, ¾, 1945. (Extract în: Biologia Generalis, 19 - 1949), pp. 139-164.

certain structure to the extent to which they represent a whole whose elements are in logically determined relations to each other and thus have characteristics irreducible to elements or relationships. Quite generally, the system may be defined as a set of elements found in an organized connection, among which dynamic relationships are established[10].

The meaning of these concepts becomes relevant for our research when they are translated to the social level.

Specifically, the organization can be characterized as a social activity that brings together people (human resources) and material resources by means of which it achieves the purpose for which it was created: products, works, and services, according to social order[11]. It is consciously and deliberately built by people to satisfy a pressing social need.

The vision of the systemic school (represented mainly by D. Katz and R.L. Kahn) seems to be, in the author's opinion, the most appropriate to characterize the level it needs to reach a structure of this type. According to the two authors, the organization is a self-regulating and self-organized system with the ability to cope with various internal and external influences, with the leadership's help, through decision-making acts[12].

In the spirit of the TGS, according to which each element of a system (in the present meaning of organization) is also a subsystem, D. Katz and R.L. Kahn made an operational classification of the systems (subsystems) participating in the internal "life" of organization, identifying five key generic types:

- Production subsystem, which is the most important because here the transformations are made by processing system "inputs".
- Supportive subsystem that gets environment "inputs" (people, materials, energy), distributes "outputs", and achieves organization's institutional links to external environment.
- Maintenance subsystem that equips the organization with all it needs to carry out activity in the best possible conditions, including mechanisms of labor force recruitment and training, of application and motivation according to organizational rules, of positive and negative sanctions to achieve organizational goals.

[10] Ludwig von Bertalanffy, cited works.

[11] Mihaela Vlasceanu, *Organizations and Management Culture*, Trei Publishing House, Iasi, 1999, p.37.

[12] Katz, Daniel. and Kahn, Robert L. *The social psychology of organizations*, 2nd ed., New York, Wiley, 1978.

- Adaptive subsystem that develops corrective measures, adjusting the system after receiving influence from the environment
- Managerial subsystem which includes activities aimed at controlling, coordinating, and directing the numerous organization structure subsystems. This subsystem has regulatory mechanisms and is invested with structural authority at several levels.

It is the one who makes the decisions for managing and directing all other subsystems[13]. In order to make the distinction necessary to further address the intelligence institutional patterns it is necessary to emphasize its particularity in the institutional sphere. Thus, if organizations are the result of a construction based on behavioral regularities that are accepted and used by individuals, at individual level, institutions are mental models that facilitate the solving of recurring problems emerging from social interactions.

"As mental models, institutions structure interactions, provides initiation and practice solutions, generate binding frameworks of individual actions saturated by meanings as well as opportunities for appropriate action. Institutions operate at mental level as collective solutions to social problems. They are responsible for coordinating individual knowledge"[14].

Decision – Between Reason and Compromise

The first theoretical contributions on how a decision is adopted in an organization occurred amid growing interest of the Western society in improving public administration systems and making private organizations more efficient.

The influence of technical concepts and positivism led, in the first instance, to a model based on rational choice.

Henri Fayol[15] (founder of the administrative management school), Frederick Taylor[16] (who defined the principles of scientific management), and Max Weber are the pioneers of this scientific approach, but they limited themselves to approaching organizations' internal mechanisms in order to

13 *Ibidem*.

14 Lazar Vlasceanu, *Sociology and Modernism. Transition towards Reflexive Modernism*, Polirom Publishing House, Iasi, 2007.

15 Fayol, Henri, *Administration industrielle et générale; prévoyance, organisation, commandement, coordination, controle*, Paris, 1916, H. Dunod et E. Pinat.

16 Taylor, Frederick, *Principles of Scientific Management*, New York and London, 1911, Harper & brothers.

identify the principles of efficiency and rationality in order to achieve the proposed goals.

In fact, the most accurate representation of this perspective can be found in Max Weber's theory, which identifies the ideal leadership model as the bureaucratic one.

The theory was subsequently, in the 1950s and 1960s, translated into a series of decision models, the rational and the incremental gaining ground at that time[17]. The end of the last century marked a shift to a new research phase aimed at developing alternative decision-making models and even proposing integrative models.

The concept of rational decision can be implemented as accurately as possible under the form of instrumental rationality, ie by choosing the most appropriate means to achieve goals, considering that the decision maker:

- has certain objectives, goals,
- has at his disposal a number of options (alternatives)
- has at his disposal a set of criteria to evaluate alternative data;
- may order these alternatives according to criteria used;
- can choose the best alternative, ie the one that fully achieves the objectives and goals
- may lead to similar decisions in any similar situations [18].

Analyzing these principles, we see how much this model replicates the institutional practice today, despite signals that underline the difficulties in implementing a system that requires a careful inputs control and rigid compliance schemes.

Moreover, the utopian character of this concept fueled fervent criticism as social studies progressed, one of the strongest being that formulated by Herbert Simon in his "Administrative Behavior"[19]. He noticed that:

„The behavior of a single individual, isolated, is impossible to achieve any degree of rationality. The number of alternatives he must

[17] Seen from a comparative perspective, the rational model has a more *normative character* aimed at how should decisions be made while the incremental model has a more *descriptive character* reflecting the way the decision are made.

[18] Miroiu, Adrian, *Introduction to Public Policy Analysis*, Bucharest, 2001, accessed on June 15, 2013, available at http://www.spidd.ro/carti/analiza%20politicilorpublice.pdf

[19] Simon, Herbert A., *Administrative Behavior,* New York, 1947 Macmillan.

explore is so great, the information he needs is so vast that it's hard to even imagine an approximation of objective rationality. Individual choice takes place in an environment where there is too much 'data' - premises accepted by him as the basis of his choice. His behavior is adaptive only within the limits set by these given 'data'"[20].

To harmonize theory with practice, Simon has adopted the rational decision model of "bounded rationality" (limited rationality) imposing a relativization of predeterminations such as the level of knowledge (which can not be total), the role of time to the detriment of the generic interests, and he has accepted the influence of external factors on decisions.

Thus, the human capacity to gather and process information is always limited and manifests itself in many forms, including:

- our knowledge is always fragmentary and incomplete;
- the consequences of actions are not all known, the decision maker use the ability to make simplifying evaluations;
- our attention has limits: decisions are based on a serious analysis (the individual cannot think of too many things at once), and attention changes from moment to moment;
- our observation and communication capabilities are limited; we learn by adapting our behavior to our aims;
- our memory capacity is limited;
- we are creatures of habit and routine
- we are limited by the psychological environment[21].

From what we see, assessments launched over half a century ago are virtually identical to those issued by the supporters of specific complex systems, being familiar to information analysis practitioners.

Another major determinant for setting organizational decision-making process is the organizational environment that generates our decision-making framework. Institutional structures, procedures adopted within, and organizational culture determine certain types of decisions.

Organizations impose their values on acceptable decisions, but time constraints often hamper the search for more alternatives from which to make your choice. Therefore, decision makers cannot choose from all the possible options, but rather, they are looking at a few alternatives.

[20] Idem, p.79.
[21] Miroiu, Adrian, *op.cit.*

Moreover, acceptance of a policy as a real alternative that could be selected depends on the ideological choices and the values that decision makers accept.

For these reasons, Herbert Simon argues that man is *rational*, but his rationality is ***limited***. The most important conclusion that follows from this is that the alternative chosen is the one that produces the greatest benefits to the costs of implementing them or expressing the best means to achieve goals, as required by the idea of instrumental rationality.

For this reason, rational behavior is "**satisficient**". Simon coined the term combining the two conditions of limited rationality: a rational behavior arises in this regard as **satisf**actory *and* suff**icient**. An action of choice is satisficient when the one who searches for it does seek to identify those alternatives that are "pretty good": they are satisfactory and sufficient to achieve the goals[22].

The importance of the decision chain is that the decision maker will have to investigate all the alternatives which in principle could produce greater benefits. He must take into account only the alternatives that will produce reasonable growth - so satisficient – of its benefits.

The problems identified by various theorists in the rational model of decision, even the greatly improved one, prompted the initiation of efforts to identify and attempt to build alternative models.

Among the models proposed, the one that seems to approach the enormously practical application is the incremental one, proposed by Charles Lindblom[23]. Observations made on the behavior of decision makers allowed him to draw a conclusion that they do not act rationally, but subjectively. Thus, it appeared that decisions in general, and public policy are the result of compromises made between the decision maker and factors implied in different ways in the effective management, the alternatives that were imposed being not the desired one from the rational point of view but those that prove to be feasible and applicable given the organizational context.

This is why, Lindblom issued a series of assumptions about decision makers, namely they:

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[22] Simon, H. A., *Rational choice and the structure of the environment*. Psychological Review, Vol. 63 No. 2, 1956, p: 129.

[23] Lindblom, Charles E, *The policy making process*, Englewood Cliffs, N.J. : Prentice-Hall, 1968.

• promote only those goals and objectives that differ very little (incremental) of the status quo to be implemented;

- assess the effect of a limited number of consequences of decision alternatives initially considered based on rational process;
- adjust goals according to available alternatives, and conversely, the alternatives available to adjust goals without resorting to a full analysis of decision variants;
- continually redefine the problem faced (goals, alternatives) as they get new information;
- continuously change over time their choices rather than just choose at one point of the process based on the result of the analysis, and evaluation of alternatives is achieved through a series of small steps;
- apply a treatment to improve challenges/problems resulting from application of the decision rather than to decisively act to completely solve them at some point[24].

This approach distributes the responsibility of analyzing, evaluating, creating and choosing solutions with other organizational or external actors, so that decision-making is fragmented and *disjoint* (divided among different stakeholders).

From this perspective, the analyst tends to adapt to the need of the beneficiary, building variants of solutions increasingly tailored to the recipient requirements, which consistently decreases the innovative added value of the intelligence products.

So Lindblom's theory starts from the assumption that policy makers produce their decisions through a process of "successive limited comparisons" with previous decisions, namely those that are most familiar.

He defined two major reasons for not producing major changes in the way decisions are made and how decisions tend to perpetuate the status quo, despite the fact that theoretically they are far from being the best[25]:

• It is easier to continue, based on negotiation, a scheme for the distribution of given (limited) organizational resources than to try forcing on us new limits with radical modified proposals.

For this reason, maintaining the original picture or, at most, the changes is minor.

[24] Apud Etzioni, Amitai, *Mixed-Scanning. A "Third" Approach to Decision-Making,* Public Administration Review, Vol 27, No.5 (Dec. 1967), p. 386.
[25] Miroiu, Adrian, *op.cit.*,p. 106.

A local example of this type of action is the apparent distribution of minor changes undergone by the national budget in the past two years, although the solutions proposed by the two ideologies that guided governments to draw them up in 2012, and respectively 2013 are totally different.

• Development and implementation of policies is achieved through organizational structures /institutions, therefore through bureaucracy. Thus, it inherently, it tends to promote similar practices.

The methods by which bureaucrats identify problems, decision alternatives, the criteria on which to make choices are those imposed by its routines, not by scientific reasons, so innovation is inhibited and perpetuation of existing mechanisms is encouraged.

The apparent incompatible contradiction between the two perspectives has led to the need for a theoretical alternative to overcome the systemic challenges.

To that end, Amitai Etzioni proposed a weighted variant called *mixed scanning decision-making process*, involving a combination of rational and incremental approach. He also provided a set of recommendations on the situations in which they are used[26].

According to the theory formulated by Amitai Etzioni, decision-making strategy should combine the use of a thorough (rational) examination of some fields and a partial examination of other areas.

The decision to choose between the two types of approach should be taken after an assessment of the actual partial approaches consequences (only after an incomplete examination of the subject submitted to the decision and its consequences) and an additional analysis and by taking into account the allocated time.

Starting from these premises, Etzioni proposes a dynamic adaptation, at each step, of the amount of resources (including time) needed for decision-making process.

Etzioni recommends[27] that fundamental decisions should be based on a rational approach, even if that might face some problems when it recommends major changes that are not feasible for solving issues related to implementation. For this reason the companies that have applied that (usually the authoritarian, dictatorial ones where interest in consensus is limited) faced major gaps between objectives set and actual results.

[26] Etzioni, Amitai, *op.cit*, p. 388-389.
[27] Idem, p. 390.

Incremental decisions (applied mainly in Western democracies) are made in the context of fundamental decisions and they contribute to addressing unrealistic issues about important decisions taken on the basis of a rational approach**.**

The Role of Analysis in the Decision-Making Process

The stages of the decision-making process are one of the oldest issues faced by modern-day management researchers and theoreticians. Initially approached by John Dewey in 1910[28], the sequencing of the decision-making process in the modern sense of the theory is also made by Herbert Simon.

According to Simon, one uses a number of three distinct activities within the decision-making process, to which he gave relevant names:

- "searching for opportunities in order to make a decision" – called "Intelligence activity";
- „searching for possible courses of action that are to be developed in implementing the decision" - „Design activity";
- „selecting a course of action" – also called „Choice activity"[29].

Simon's work inspired one of the models that influenced mostly the organizational management published in 1976 by Henry Mintzberg, Duru Raisinghani and Andre Theoret.

According to the three experts, although the decision-making process requires distinct phases, they are not just simple sequential relationships.

In order to adapt them to a contemporary perspective, they renamed Simon's phases and divided them in routines.

- **Information** implies two distinct activities:
  - *recognition* which identifies "problems and opportunities"
  - *diagnosis* or "the examination of current and new sources of information in order to explain and define problems";
- **Development** includes two phases (or "routines"):

[28] John Dewey, *How We Think,* 1910, Boston: D.C. Heath & Co., retrieved June 15, 2013 from http://rci.rutgers.edu/~tripmcc/phil/dewey-hwt-pt1-selections.pdf

[29] Simon, Herbert (1960), *The New Science of Management Decision,* 1960, New York, Harper & Row, p. 1,2.

- *search* which looks for ready-made solutions;
- *design* which creates new or custom-made solutions;

- **Selection** contains three activities:
  - *filtration* (used only when the number of ready-made solutions is too large to be "thoroughly reviewed, in which case suboptimal solutions are removed);
  - *evaluation and selection of alternatives* based on judgment, bargaining and analysis;
  - *authorization* (validation by upper management).

Relations between these routines are rather circular than linear, the decision-maker being able to use the three phases in a dynamic way, changing their order, approaching them simultaneously or returning to a previous phase depending on the decisional context[30].

Peter Drucker advances a more practical approach specific to contemporary organizational activities according to which the rational steps in the decision-making process are:

- Define the problem;
- Analyze the problem;
- Develop alternative solutions;
- Decide on the best solution;
- Convert decisions into effective actions[31].

As one can see, the theoretical language adapts itself as we approach the present, but the content and fundamental knowledge are essentially similar to those developed 50 years ago, some phases and activities being refined so that they become applicable while the technological and social coordinates of the humanity change.

In order to achieve an early transition towards the intelligence spectrum we need a detailed presentation of the activities claimed in the decision chain and subsequently of the approach method from the management process perspective.

But it is obvious that the analytical work presents in fact three

[30] Mintzberg, Henry; Raisinghani, Duru; Théorêt, André, *The Structure of "Unstructured" Decision Process*, Johnson Graduate School of Management, Cornell University, Administrative Science Quarterly, Vol. 21, No. 2 (Jun., 1976), pp. 246-275

[31] Drucker, Peter, *The Effective Decision*, in *Harvard Business Review On Decision Making*, 2001, Harvard Business Press, p. 1 – 20

distinct forms of decision effort coagulation which are assigned to different moments in the decision chain with major differences in regard to intellectual effort type and the resulting product.

Therefore, the three types which are specific to the first three phases of the decision-making process correspond to totally different needs. While the analyst has to identify and correctly match the pieces of a puzzle during the first phase, which involves identification and subsequent rule compliance, it takes understanding, interconnectivity and systemic perception during the second one.

The third phase, which implies solution development, is largely opposite the first. A nonconformist, creative spirit, that is able "to dream" how a decision can change rules and can remedy and stabilize the system is necessary in order to overcome a problem arising from the accumulation of negative consequences of a given situation.

For this reason, the delivery of a complex range of possible solutions or the identification of the desired optimal state of the system which subsequently can be subject to incremental approach is essential for a system on the edge of chaos.

In order to reach this goal, one has to overcome mental constructs that are rather common to rational models as it is more obvious that a total environmental knowledge is impossible much and less a swift one.

Bibliography

1. Bertalanffy, Ludwig von, "Zu einer allgemeinen Systemlehre", *Blätter für deutsche Philosophie*, ¾, 1945. (extract in Biologia Generalis, 19 - 1949), pp. 139-164.

2. Bettis, Richard A., Hitt, Michael A., 1995, "The new competitive landscape", *Strategic Management Journal*, vol. 16, no. S1, pp. 7–19.

3. Dewey, John, *How We Think* (Boston: D.C. Heath & Co., 1910), accessed 15 June 2013, http://rci.rutgers.edu/~tripmcc/phil/dewey-hwt-pt1-selections.pdf

4. Drucker, Peter, "The Effective Decision", *Harvard Business Review On Decision Making*, Harvard Business Press, 2001, pp. 1-20.

5. Etzioni, Amitai, "Mixed-Scanning. A 'Third' Approach to Decision-Making", *Public Administration Review*, vol. 27, no.5, 1967.

6. Fayol, Henri, *Administration industrielle et générale; prévoyance, organisation, commandement, coordination, controle* (Paris: H. Dunod et E. Pinat, 1916).

7. Hayek, F. A., "The Theory of Complex Phenomena: A Precocious Play on the Epistemology of Complexity*", Studies in Philosophy, Politics and Economics* (London: Routledge & Kegan Paul, 1967), accessed 15 June 2013, http://highmesa.us/Hayek/Theory %20of%20Complex%20Phemomena.pdf

8. Hayek, F. A., "The Pretence of Knowledge", Nobel Prize Lecture, 11 December 1974, accessed 20 June 2013, http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1974/hayek-lecture.html

9. Hoppe, Magnus, "The intelligence worker as a knowledge activist – an alternative view on intelligence by the use of Burke's pentad", *Journal of Intelligence Studies in Business 1* (2013) pp.59-68, accessed 20 June 2013, https://ojs.hh.se/

10. Katz , Daniel, Kahn, Robert L., *The social psychology of organizations* (New York: Wiley, 1978), 2nd edition.

11. Lindblom, Charles E, *The policy making process* (Englewood Cliffs, N.J.: Prentice-Hall, 1968).

12. Lorenz, Edward N., "Deterministic Nonperiodic Flow", *Journal of the Atmospheric. Sciences*, 1963, 20, pp. 130–141.

13. Mintzberg, Henry, Raisinghani, Duru, Théorêt, André, "The Structure of 'Unstructured' Decision Process", *Administrative Science Quarterly*, vol. 21, no. 2 (1976), pp. 246-275, Johnson Graduate School of Management, Cornell University.

14. Miroiu, Adrian, *Introducere în analiza politicilor publice* (Bucuresti: Ed. Paideia, 2001), accessed 15 June 2013, http://www.spidd.ro/carti/analiza%20politicilorpublice.pdf

15. Ott, Edward, *Chaos in dynamical systems* (London: Cambridge University, 2002), 2nd Edition.

16. Simon, Herbert A., *Administrative Behavior* (New York: Macmillan, 1947).

17. Simon, H. A., "Rational choice and the structure of the environment", *Psychological Review*, Vol. 63 No. 2, 1956.

18. Simon, Herbert, *The New Science of Management Decision* (New York: Harper & Row, 1960) .

19. Taylor, Frederick, *Principles of Scientific Management* (New York and London: Harper & brothers, 1911).

20. Vlăsceanu, Lazăr, *Sociologie şi modernitate. Tranziţii spre modernitatea reflexivă* (Iaşi: Editura Polirom, 2007).

21. Vlăsceanu, Mihaela*, Organizaţiile şi cultura organizării*, (Iaşi: Ed. Trei, 1999).

Cristian Iancu is an OSINT expert. He is a graduate of the Faculty of History, University of Bucharest, with a East European Studies specialization, and he is a Ph.D. candidate at the "Mihai Viteazul" National Intelligence Academy. His scientific research is focused on current trends in intelligence analysis and on organizational models suitable for intelligence structures. He is a researcher within the POSDRU doctoral programme "Transnational network of integrated management of intelligent doctoral and postdoctoral research in the fields of Military Science, Security and Intelligence, Public order and National Security - Continuous formation programme for elite researchers - "SmartSPODAS", organized by "Carol I" National Defense University, Bucharest.