

# SHAPING OF UNCERTAINTY IN INSTITUTIONAL SYSTEMS BY USING THE ANTI-FRAGILITY CONCEPT

Simona BECHERESCU\*

**ABSTRACT:** *Institutional systems are characterized by uncertainty and risk at all levels, and any other entity is subordinated to risk and uncertainty at some point.*

*The article proposes a debate on risk and uncertainty, especially in the case of public organizations/institutions, integrating the concept of anti-fragility. It refers to the capacity/potential of the systems (e.g. public organizations/institutions) which, because of their structure, functionality, managerial behavior etc. could benefit from the disruptions to which that particular system is subjected, either from within itself or from the environment it is a part of.*

*The article proposes to achieve two main objectives: clarifying the concept of anti-fragility as a structural and functional property of a system, by applying it to a public institutional system (public institution) and the conceptual building of the resilience of audit and, within its framework, the anti-fragility audit.*

*The scientific solution of these two research aspects could lead to the improvement of the institution of internal audit by enhancing its performance in a direction that would be consistent and convergent with current concerns (theoretical or economical) on the concept of sustainable growth, as well as regarding the economic development - the anti-fragility audit.*

**KEY WORDS:** *anti-fragility; public institutional system; internal audit; resilience audit; anti-fragility audit; sustainability*

**JEL CODE:** *L29, M42, O11*

## 1. RISK VERSUS UNCERTAINTY

In the current situation, when globally we are confronted with different crises, the institutions and the staff, in order to achieve the objectives set in the activity carried out and in order to achieve the proposed goals, seek to identify the factors that would prevent them from doing this and prepare the necessary measures in time.

---

\* Romanian Academy, Bucharest, ROMANIA.

Programming the institution's decisions in certainty can be a habit based on the politics and procedures agreed by the management, but there may also be challenges and uncertainties that require the adoption of unscheduled decisions to be unique.

In the face of rare events whose knowledge is insecure, where risk and uncertainty come together in varying proportions, but uncertainty can not be definitively eliminated, no matter how complete the risk management is, fragility occurs.

Leadership is, in the development process, a first factor of progress that provides stability, conditional activity and determines its efficiency at the same time.

When the manager lacks the information, knowledge and skilled or implicit staff, when the objective determination of the probability of the outcome is difficult, the uncertainty and the assumption of risk arise.

Due to the complexity of the current world, this situation is often encountered by managers, which is why the basis for making a decision consists of experience and intuition. The confidence in the successful implementation of the decision made in such situations is lower due to the absence of historical data.

Some decisions need to be delegated to allow managers to use their time to solve priority issues to meet the institution's goals.

In various works, uncertainty is characterized as a state of knowledge or indeterminacy of a system, of an individual, of a situation, of an assertion.

It is difficult, sometimes impossible, to calculate the risks of occurrence of rare significant events and to forecast their occurrence. In a fragile economy where almost everything is subject to stress factors (health, political life, education, the environment), we consider randomness and volatility.

Sensitivity to volatility-related damage is easy to detect, easier than predicting the chance that could cause harm.

The current, national and global economy is strongly dominated by uncertainty and risk.

Economic uncertainty has as its source either the objective, unpredictable character of an economic process, or the incomplete character of some of the existing knowledge at one time. The uncertainty therefore refers to the uncertainty surrounding the expected results of an economic action.

Unlike uncertainty, the risk is characterized by the possibility of describing a probability law for the expected results, indicating the ways in which the economic agents treat this law.

Thus, unpredictable events can cause deviations that fundamentally change the data configuration highlighted by previous statistical observations.

Any decision-making process based on the analysis of the statistical data reported in a previous state and on the attempt to validate a possible probability distribution applicable to the future implies a certain degree of uncertainty. Uncertainty becomes a potential source of risk when it comes from incomplete information or from often incompatible sources.

The uncertainty is characterized by a great instability of opinions. The lack of knowledge is a source of uncertainty, and abundant knowledge leads to a critical and doubtful spirit. There are many strategies to reduce uncertainty. For example Woods (1996) refers to a reduction to what is known. Another way is to shape uncertainty.

Risk can not be suppressed since it exists in economic activity and in the business world. Decisions are taken in an uncertain and risky environment, but not without an assessment of the decision alternatives, of their consequences, but considering that the effects of the decisions are not known for sure.

It is obvious that a high-performance management strategy must include both risk management programs and procedures that aim at minimizing the likelihood of these risks and potential exposure. The central objective of these policies is to minimize the additional losses or costs borne by the institution, with the aim of achieving the proposed results.

The degree of uncertainty in achieving the objectives is given by those risks that can not be identified at any given time, while the degree of risk is given by the identified risks.

In the case of public organizations / institutions, it is necessary to start at the level of each employee with the provision and establishment of the risk in the performed activity, taking also into account the uncertainty.

The management of public organizations / institutions aims at achieving objectives, objectives to be communicated to departmental coordinators who, in their turn, have the task of communicating to each employee. As Taleb says, all decision-makers must have "skin in play".

As required by audit procedures, it is necessary to identify the risks, determine the acceptable level of risk for the institution and determine how it is managed.

Thus, if the audited entity has implemented effective risk management, it is a benchmark for the auditor in assessing mission-related risks, in that the overall audit risk will be lower and the level of assurance provided by the auditor will be high.

Different disciplines are interested in uncertainty from different points of view. Both mathematician and statisticians, physicists, sociologists and psychologists are looking for methods and techniques for estimating, measuring, and assessing impacts on humans and on nature.

Hofstede treats uncertainty as an integral part of any social institution in any country.

Whenever there may be situations and interdependencies that were not initially taken into account - the risk of undetectability, the risk of "hazard". Nassim Nicholas Taleb treats uncertainty and randomness as a single idea.

The notion of "hazard" is attributed to the meaning of "unpredictable and often personified cause attributed to fortuitous or inexplicable events" or "unforeseen event, in which neither calculations nor abilities come into play."

Nassim Nicholas Taleb places the risk between distress and hazard, allowing for a clear distinction between the two syntagms. But on the other hand, noting that it is possible to be both dangerous and dangerous, we can conclude that the risk covers both areas to a certain extent. Both of his works, both *Black Swan* and *Antifragil*, describe rare, unpredictable events that have a major (negative or positive) impact on society.

## **2. EFFECTIVE PRESENTATION OF THE ANTI-FRILTY FUNCTION IN THE PUBLIC INSTITUTIONAL SYSTEM**

Each environmental factor can help the institution to develop or hinder its development, unpredictable, the daily challenges that resolve give the stability that ultimately leads to the successful achievement of the proposed objectives.

Unfortunately, in any institution, the degree of risk increases with the importance of decisions, especially since the information available is, in most cases, not proportionate to the magnitude of the decisions to be made.

The more undesirable the consequences, the more risky the decision that has been taken.

Not all decisions faced by managers have the same degree of uncertainty or risk.

Anti-frailty in a public institution depends on the managers' ability to eradicate disturbing factors, both internal and external, in a changing economy, without taking into account the influence of interest groups (political parties, trade unions, civil servants).

It is obvious that a good management strategy should include both risk management programs and procedures that aim at minimizing the likelihood of these risks and potential exposure.

The anti-frailty of a public institution consists in taking risks and improving work under stress and with the resources at its disposal.

The central objective of any public entity is to minimize the losses or additional costs incurred, with the aim of achieving the greatest benefit.

For a public institutional system to become antifragile, we need to identify those components that give it robustness and resistance to risk.

Quoting physicist Louis de Broglie: "We have to follow the risk because risk is the condition for all successes." Thus, the risk management mode that the institution can assume or, more precisely, determine its acceptable level, makes the difference between resilience and collapse.

The attempt to completely eliminate the risks is not productive.

A public institution can gain privileged positions in society by taking controllable risks by mitigating the unforeseen effects of acting with appropriate means of protection by assuming the "preparation" in relation to the emergence of new risks, creating a robust system.

A fragile institutional system becomes robust when it properly manages its risks and anti-frail when its decisions turn the risk into advantage, success, performance, and benefit.

Scientifically addressing the risk is not the wisest way to ensure the rapid progress needed in a field, it must be seen in terms of uncertainty, hazard, unforeseen events but psychologically prepared with will.

Events that can affect the public institution are so numerous and complex, because the future is largely unknown. Identifying, evaluating and managing them has become a major challenge for managers, auditors, people in charge of internal / managerial control.

In public institutions, approaches based on adequate, assumed and performing risk management must prevail.

A powerful antifragile management involves:

- analyzing and changing things that go wrong and introducing conscious decisions into the practical work;
- Establishing a set of operational procedures structured on the knowledge of the activity carried out;
- flexibility to discuss with subordinate staff, communication of tasks and objectives of the institution;

- planning, organization, training, coordinating and controlling the activity, evaluating the results;
- using the ability to manage a group of efficient individuals in order to achieve the objectives during the established time;
- removing external environment disruptions and adapting to their challenges;
- maximizing the use of information as a trump for competition;
- increasing the degree of autonomy and managerial flexibility;
- Integrating into the managerial thinking of the aspects related to economy, efficiency and effectiveness;
- market orientation and focus on results that meet the current social needs;
- reinventing and producing creative news;
- anticipating change and staff training (vocational training courses, motivational therapy, etc.).

The measurement of the performance of a public institution is defined by aspects related to how human, material and financial resources are used in order to achieve the proposed objectives and the degree of satisfaction of the beneficiaries of the services provided.

In a control environment based on risk assessment and management, the public institution may have a general idea of the possibility of a rare occurrence, and knowing its structure from other events can turn major risks into minor risks by reducing their effect-surprise, resulting in anti-frailty.

For an institution that tends to perform, the greatest risk is the loss of an opportunity, the chance, the other issues remaining only of a technical, bureaucratic nature.

Antifragility is beyond strength or robustness, resistance resists shocks and remains the same, the antifragile becomes better.

Computer-assisted procedural modeling takes into account the importance of man in the management process, because he is the one who formulates the assumptions about the behavior of the system and the one who raises the solutions for decision solutions. Most procedural models are based on the simulation principle. The computer simulates the evolution of the object driven according to the decisions taken, giving the decision maker the consequences on the object. The decision maker analyzes the results obtained and decides whether to accept or formulate new assumptions that lead to new decisions.

Taleb has shown that the more important it is, the more risky it is. As a result, the activity of managers in general and risk managers in particular must be selectively oriented, depending on the impact of the potential risk in the activity of the institution they are conducting. Establishing these priorities necessarily requires the use of exceptional management methodology.

The key elements for making decisions are:

- The field of activity is making decisions;
- Man as the main and only element in the decision making process;
- A computing system designed to facilitate human decision-making through a software toolbox.

Thus, the institution can be regarded as a system.

The concept of system applies to organizations of any kind, which have as components human, machine (technology) and other material, financial and informational resources.

Knowledge of the institution as a system is determined by how the elements of the system and the relationships between elements vary over time.

In order to achieve the objectives, the institutions need to find the most appropriate means and methods of leadership for both technological and economic activities.

In public institutions, before starting any activity, it is necessary to identify, assess and reduce / eliminate risks as much as possible.

Institutions differ according to the conditions in each public institution, e.g. number of employees, type of work, equipment and type of work equipment, specific job features, substances used and the specific risks involved in such use.

If we understand the mechanisms of anti-fragility, we can build a systematic and comprehensive guide to the process of making non-predictive decisions in conditions of uncertainty in business, politics, medicine and life in general, that is, wherever the unfamiliar lies in any random, unpredictable, opacity or incomplete understanding of things.

High performance oriented institutions are defined as organizations with exceptional financial results, satisfied employers and employees, high productivity, organizations that encourage innovation and skills development.

The economic and mathematical modeling activity is effective only insofar as it takes place in the system analysis when designing the information-decision system.

The modeling process comprises the following steps:

- Detailed knowledge of the reality of the system (process) to be modeled;
- The proper construction of the economical -mathematical model;
- Experimenting the economical-mathematical model and evaluating the solution;
- Implementing the economical-mathematical model and updating the solution.

The main types of economic and mathematical models are:

- Descriptive models that seek to reproduce some properties of the model system;
- The normative models used to apply effective decision-making rules in the institution in order to increase performance.

Informational-decision models are divided into two categories:

- Models for describing the informational-decision recipe;
- Models describing the structure of the decision-making process.

By applying control standards, the public institution protects your activity and resources, in accordance with its objectives and legal regulations, in order to ensure that public funds are managed economically, efficiently and effectively.

Redundancy develops with the design and implementation of a viable internal control system in the public institution, through well-established objectives by the management team (achieving the public entity's objectives in an economical way).

Taleb proposes avoiding the average risk on the grounds that it is not known "how much the environment is a risk", fragility can be measured, while the risk is not.

Anti-fragility - voluntary exposure to possible "risks", as public institutions are likely to predict and calculate the risks of rare events and to forecast their occurrence, leads to progress.

In order to achieve outstanding results, institutions must dare to create new products or services, research in novel areas, prepare the chance to be positively affected by an unexpected event.

### 3. CONCLUSIONS

Anti-frailty, "risk-taking", the great challenge of public organizations, is to optimize the knowledge, to adapt and create new innovative products and services.

Public anti-frail organizations are developing some sectors that evolve at the same time and rhythm with the overall economy and society, and effective use and exploitation requires robust, adaptable structures, solutions that combine specialized technologies with information technology, creative management.

A powerful anti-fragile management involves using the information to the fullest extent as a trump for competition.

### REFERENCES

- Taleb N.N., 2008, *'The Black Swan: The Impact of the Highly Improbable'*, Curtea Veche Publishing House, 416 p.  
Taleb, N.N., 2011, *Antifragile*, "Curtea Veche" Publishing House  
Romanian Court of Accounts, 2013, *Performance Manual*
- 
- 
-