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Pressing needs for very long term planning

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Abstract. In the last decades, Romanian society was managed by decision-makers mostly intuitively, reacting more to events and disasters, making ad hoc, chaotic decisions, without building strategies that they have achieved with consistency. They meddle in the management of companies, they mess around in the mass media, they have oversized the bureaucratic apparatus, their policies have no important differences between political parties, showing signs of fossilization. Several situations observed in reality show us that a major paradigm shift, of a very long-term strategic vision is necessary, from which results the strategies on shorter time horizons. Very long-term strategic planning can be stable and could transcend the interests of political parties, facilitating the cohesion and coherence of plans.

Keywords: general fall of society, very long-term strategy needs.

1. Introduction

Most policies and the strategic planning of system development and management are issued under the pressure of uncertain and urgent events or of those being in full changing. Making decisions on the spot, even the geographic area of reference is limited to the close neighborhood. As a result, many decisions suffer from provincialism symptom and become soon obsolete. So, the system works in a degraded state, loses domestic and international markets, stops intermittently or permanently, is not able to react to inputs, etc.

After years of general lethargy of society, its systems have institutionalized their state of continuous decline. Even during the election campaigns, many politicians do not outline strategic programs. Obviously, although the systems went into deep decline, 1989 also marked the beginning of their large-scale renewal on the frame of very favourable new conditions on national and international levels.

2. Critical situations due to lack of very long-term planning

The decision-makers, after almost completely destroying the national economy (instead of upgrading it, including by reinvesting the income from the sale of its own products), did not try to transform the entire society through long-term strategies transcending the interests of political parties. It followed a chain of consequences with long-term effects, which led to the completion of the disaster by the massive emigration of the best human resources (equivalent to the losses that would follow after a large real hot war), the loss of funding sources through the liquidation of value generators and contributors to the state budget, the collapse of activities that contribute to the standard of living and development: education, health, culture, etc. Let's see such critical situations and inconsistencies.

Inhibition, as a system degradation factor

A strong, shocking, and surprising event causes inhibitions, that is, the partial or total paralysis of the system's ability to work and even to exist. On a social level, the events of 1989 shook society and as a result, its systems (institutions, companies, even individuals) were no longer able to work, they could not observe how the economy was being destroyed and demolished, resources were being plundered, society is desolate and impoverished.

The return from inhibition could be done through *insight*, that is, through the sudden understanding of the existing situation at a given moment, a kind of enlightenment. To create the conditions for insight, diagnostic analyses, master plans, quality management systems, maintenance by condition, foresight studies, visionary scenarios are useful.

Denial of reality

This is a kind of defense mechanism by which someone transfigures the unpleasant or anxious real facts that they refuse, substituting them with imaginary, opposite facts. It was typical during the transition period of the 1990s and 2000s, when facing the evidence that the economy was collapsing and everything was being stolen, the citizens were still convinced that the country's way is correct, refusing to believe the reality that was clearly visible to the real elites which were blocked by politicians and their henchmen. In their imagination, people put in place an ideal society, a democratic dream, rule of law, that is, fantasies that did not yet exist or did not work. It is valid for any system, including social, organizational, managerial, technical. The attitude of denying reality was supported by the automatic defense mechanisms which, in their turn, were subsystems that were deregulated together with the system. This is how accidents, fires, tax evasion, corruption, unsupervised and even illegal companies, appeared.

The system, between morality and legality

In contemporary civilization there is a general trend of reversing of values, risking becoming, among other things, an Antigonian civilization (George Tarara), moving away from and even opposing the founding tradition of European civilization that comes from the Greeks, the "chosen people" in the cultural field (Ștefan Iovan), which makes political calculation prevail over morality [1]. In Romania, at the EU level, as well as in general, on the international level, the millennial morality tends to be temporarily neglected, decisions being taken more and more often out of political interest based on legal frame created on purpose. Therefore [2], people from the political clientele are appointed to the management of companies with majority state-owned capital, and: they do not pursue profit maximization; they divert shareholders' finances to cover onerous costs, which is immoral, although it is sometimes covered by laws created by the politicians behind them; promotes corruption and crimes against the national interest, without identifying the culprits; those who cause damage, are not confiscated them from what they plundered, etc.

Losses which are irreversible

Over time, after the generalised disaster has passed, the people will regenerate their human losses, but what was lost never comes back. For example, after 1989, Romania lost millions of people through emigration, these being from among the most valuable in the respective fields of activity. The phenomenon is not over yet. In the distant future, the human resource will be restored, but the loss remains and will be multiplied by dynamic effects, such as children born outside the country and naturalized there, the general collapse of society, the delay in relaunching the economy.

Economic hemorrhage

Following the destruction of the industry after 1989, more and more major economic opportunities were, are, and will be lost. For the near future, for example, it will be difficult to participate in the chemical industry based on the gas and oil resources of the Black Sea.

The chaotic operation of the systems in Romania has led to strange phenomena, such as: although it is an important producer of electricity, its population paid in August 2024 the highest price in the EU, 147 euros/MWh [3]; although most of the industry has been liquidated, an excessive ecological policy is being pursued; although it is one of the countries with great agricultural potential, most food products are imported (cereals, vegetables and fruits, meat and frozen dough, etc.); its natural resources are exported to other countries at very low prices, they are processed there, and the resulted products return at very high prices; etc.

Without industry, some analysts say, the country has become a huge market where mostly only products made in other countries are sold. The bad thing is the low

share of national production, which makes such an economic structure unsustainable. The need for trade is indisputable, but transport activities (t.km), logistics in general, are too high related to the amount of goods imported from foreign producers and distributed to domestic consumers. That is, logistics chains extend over very long distances, increasing the consumption of materials and energy with direct implications on environmental pollution.

The economy must be developed based also on some strategic principles that lead to its sustainability:

- the principle of subsidiarity;
- optimal energy intensity per GDP;
- the principle of processing raw materials as close as possible to their sources.

Systems that escalate societal decline

On all levels of reality, starting with individuals and up to the national level, there are also systems without reaction or with positive feed-back, having destructive effects on the respective communities that make them go through successive states of degradation: fatigue, exhaustion, corruption, bankruptcy, liquidation. This is how almost the entire economy was destroyed, eliminating the sources of income that would have regenerated the losses. This type of system continues to consume, but using credits for the return of which, new credits are contracted in an escalation that is difficult to control. Such systems are not sustainable, they postpone the payment of debts on account of future generations.

Nothing is for free, everything is paid, in one form or another, sooner or later. The decision-makers, especially politicians, must ensure that the open, uncontrolled system urgently becomes a feedback system, with an automatic adjustment mechanism that avoids waste, consumption without production.

It is strange that there are such supervisory institutions, created according to the EU models, but they do not work, being forms without substance.

Decision-makers with no decisions

During an election year, there are political parties and politicians in the election arena, as befits a democracy. On the other hand, we do not see or hear anything like political ideas, strategies, long-term visions, anything about their governing programs. They fight with each other, insult each other, each digs into the past and personal life of others, some even group together to remove others, cursing each other, noble ideals are considered crimes, the national interest (that is, of the voters) is considered a crime. Strategic initiatives, actions in the direction of the general progress of the society and the prosperity of the citizens are not foreshadowed.

Many politicians seem to passively wait for the problems to solve themselves according to the principle of Micawber, a character who, facing difficulties, does

not act because he is sure that he just has to wait and "something will turn up" (Charles Dickens, in "David Copperfield").

Decisional obsessions

Many decision-makers remain stuck, from time to time, in a fixed idea, in an obsession, which could be also called stiffness in the project. After they are forced to abandon it, they fall into another obsession. There are well-known bottlenecks in concepts such as renewable energy, gender, lgbtq+, open society, global warming, etc. The bad thing is not about these concepts, but the fact that they are managed incorrectly, without competence.

Decision-makers should understand that it is a fundamental mistake to block the evolution of the system on certain obsessive indicator at a time, inducing instability, syncope, hostility, inefficiency and even crises of various kinds. There are important all indicators, only their weights in a multicriteria aggregator are variable, depending on time, field of activity, type of system, etc.

Always in doubt

The general meanings of doubt are hesitation, uncertainty regarding the reality of a fact, the truth of a statement, a certain attitude to adopt [4]. Doubt can be generated by the adoption of decisions or statements in conditions of incomplete or even false information, when the doubt is created intentionally. It can be generated by the system of social-political weaknesses that make no one believe the decision-makers because: decisions are not stable over time, they change from one government to another (accusing the heavy inheritance), the past changes according to the perverse mentality "the future is certain, the present is uncertain, and the past is constantly changing", the repeated lies and non-respect of the oath taken when the decision-makers were enthroned in public positions.

The results of doubt are catastrophic: the dilution of authority and the state in general, the induction of insecurity among individuals in the target population, the loss of self-respect (by inducing doubt regarding the great achievements of a historical, technological, scientific, cultural nature), the attack on the credibility of strategies useful to society and citizens, etc.

3. Time inconsistency in usual planning

Non-compliance with planned deadlines

The inconsistency occurs when all preferences are not harmonized because behaviors and preferences of some decision-makers change over time. So, at least a preference can become inconsistent from one point to another in time, and could be different decision-makers or the same decision-maker having different opinions or objectives. In case of dynamically inconsistent implementation plan, an operator's

best plan for some future period will not be optimal when that future period arrives, and by consequence, the optimal principles will not be valid, including the Bellman's principle of optimality.

In the reality level of politicians who have to implement a certain long-term strategy, the planning graph is describable by a time-variable oscillating wave, resulted by composition and integrating specific harmonics of the planned activities, of the projects and measures that must be carried out according to the time schedules. Fourier series could be used for modeling, resulting in a wave composed of the harmonics of each planning element of the strategy realization [5]. If some component harmonics are not realized at the planned parameters, then the politician will only implement a lipping version of the strategy that will "sound" false, producing dissonant disturbances in the society.

New generations of politicians, new approaches

The strategic decisions alteration depends mainly on the generation whom the policy-makers belong to. There were new generations that continued the policies of the previous generations, as well as there are generations that aggressively dealt with the former results. It is well-known, for example, the crazy request of some individuals after 1989 to destroy the Danube-Black Sea Canal.

Fortunately there are also generations of visionary politicians, real vectors of development.

For each generation, to live must be a vector of two-dimensional activity: to receive what the previous generations have already lived (ideas, values, institutions, etc.), and to let free their own spontaneity (J.O.y Gasset).

Loss by lack

Someone can lose an object (he forgets where he put it, it was stolen, it is embedded in a larger object, he is officially dispossessed to cover a debt), he can lose a being (a sentimental relationship breaks up, isolation in another place, death, etc.), but there are also losses due to lack (insufficiency, obstruction of the possibility of access to objects or services, barriers against professional contacts, etc.). Loss through lack is actually a loss of potential. Although it has some similarities with scarcity, it differs from it in terms of costs, being a cost of lost opportunity.

The lack of accessibility to opportunities represents potential losses that must be evaluated and taken into account in planning the operation or development of a system, resulting in virtual costs and benefits that must be added to the generalized cost of the respective project. Very serious are the losses due to non-participation or non-presence in the market, losses by diminishing the potential of own production by renting some assets to other agents.

Lack of vision about system and its reality

The diagnosis of the system, carried out before its planning, is important as a premise for developing the necessary forecasts. The planner's vision must go beyond the planning horizon [6][7], serving as the context of the system's activity environment, of the reality level in which it exists.

In many cases, the vision refers to a reduced reality compared to the planning horizon, resulting in provincial, even local decisions. It is something similar to the myth of the cave in Plato's allegory in which the prisoners, forced to live inside, come to believe that the surrounding reality consists of the shadows that move on the walls of the cave, that is, in the bidimensional projection of the three-dimensional reality outside on which only the philosopher who knows physical reality can see. Therefore, the planner must have a description of the system and the level of reality on which it operates, as close as possible to their truths. Only after that comes the predictive thinking of the strategist who elaborates and recommends optimal options to the decision-makers. A look at the goals of Romania's current sustainable development strategy shows its weaknesses, fig. 1.



Fig.1. The goals for sustainable development (RO)

Unfortunately, without a long term optimal strategy, it was often preferred to use the systems in a state of almost institutionalized degradation, reacting only to the desperate signals coming from society.

The lack of industry, the degraded states of the educational and medical systems, the destroyed state of the irrigation network, as well as many others, although they are serious, the policies and strategies of the decision-makers did not lead to their reactivation. So, accidents, breakdowns, fires, scandals, pandemics, drought and the context of some international conflicts, sometimes activated the decision-making systems by temporarily increasing their excitability under the action of such secondary signals.

Contrasting with strategic common sense

Although was accepted the European policy consisting of encouraging railway transport as green mode and the development of air transport as a transport mode of the future, in Romania's reality the opposite is the case, road transports are facilitated, and rail systems and air transport companies have continuously decreased after 1989.

Moreover, Romania which was a maritime power, soon after 1989 it was lost the entire seagoing fleet, fact which proves that new generations of politicians fail to understand the strategic importance of this mode of transport. Besides there still exists the confusion between the two distinct transport modes, maritime and inland waterways transport (iwt), although they are separated.

The hereditary indifference of politicians as related to intermodality is merely amazing. The decision-makers take out the transports from historical evolution of intermodality, even on short time.

Lack of facilitation to long-term competition

There are various forms of competition, not only at micro-, but also at networks level, and at macro-economy level. In some critical situations, each category mode of providers could prevail, such as road transport for local distribution of goods, railway transport on long distances, and for dry bulk flows. The closer the goods are to their raw material state, the more railway and inland waterway transport (iwt) must be chosen. The road vehicles must be preferred for manufactured goods. Similarly, railway and iwt must be preferred for long distance transport, and for transport of great parcels, while road vehicles are suitable in transport of small parcels, short distance collecting-distribution, and last mile delivery. But in many cases, the transport modes were used contrary to these paradigms, increasing the inefficiency of the economic and logistic systems.

By the curve of indifference, is defined the marginal rate of modal substitution of systems and maximum needs to be satisfied. Several times, modal substitution of different categories of systems overpass the strict frame of activity area considered, and it includes many other reasons linked to production, technology, social and even political. The access to indifference curves, depending on clients' wishes expressed by the utility index, is given by the budgetary line, pointing out clients' consumption possibilities related to services requested or provided.

Ignoring intermodal as factor of cooperation

Although the new intermodal transport technologies, new types of vehicles (the mixed freight and passenger railway wagons, large trucks, short-sea shipping, fast ferry ships etc.) may reduce transport activity in term of (t.km) for the same freight carried, the decision-makers do not use these intermodal cooperation potential, fig. 2, such as is the incidence of some logistic boxes versus vehicles [8].

Loading Unit	Vehicle
Macro-Unitisation (further aggregation of loading units)	Ship
Container $\geq 40'$, ISO Serie 2, High Cube; Swap Body A	Wagon; Long Vehicle
Container ISO 20' ; Swap Body C	Truck, Lorry
Mini-Container	Urban Vehicle, Van
Pallet	Forklifts
	Transpallet
Parcel	Manual

Fig. 2. Logistic boxes versus vehicles.

The means of transport evolve in the direction of inter-, trans-, co-, and multi-modality, integration and logistics, thus new solutions with a major impact on infrastructure network will arise on the very long term level of reality. In the future will be introduced many other logistics units which will have major impacts on very long term logistic networks.

4. Conclusions

The representative situations presented, regarding the state of the current society after more than three decades after the change of 1989, show the failure of short-term improvised strategies.

Therefore a fundamental restructuring of the development strategies should be started, especially since there are favorable conditions for using the cooperation potential within the EU, as well as on other international markets in general. This would be a large-scale activity that requires very long-term strategies, involving several generations [9].

Maybe it's not just a coincidence, but there is a possible analogy between the generation that began after 1990 the transition towards a new society, and the exodus of the Jews from Egypt to Canaan: neither some nor the others will reach their destination. In other words, those who initiate and begin a great work do not finish it, but others complete it. Usually, the initial old generations of decision-makers are not compatible with new social, political, and economic conditions at the destination. It seems that the critical time interval for detoxification and renewal is 40 years.

References

- [1] Iovan Șt., Tarara G., *Cărți care au schimbat lumea*, Moldova TV, 2024, Romania.
- [2] Cuncev I., *Strange behaviours of profit-making systems*, ASTR Days, 5-6 oct. 2023, Brașov, Romania.
- [3] <https://www.youtube.com/watch?v=8WbD3ToyOEI>
- [4] Sillamy N., *Dictionnaire de la Psychologie*, Larousse, Paris, 1995, France.
- [5] <https://cuncev.wordpress.com>.
- [6] Cuncev I., *Strategic planning throughout generations*, working paper, Transport Research Institute, Bucharest, 2000, Romania.
- [7] Cuncev I., *Intermodality of networks throughout generations*, EU COST Action 340, Conference, 24-25 May 2002, Lisbon, Portugal.
- [8] Cuncev I., *User requirements on small containers*, COST Action 339, Brussels, 2000b, EU.
- [9] Cuncev I., *Fundamentals in very long term planning*, ASTR Days, 19-20 sept. 2024, Craiova, Romania.