

HOW TO FIGHT AGAINST THE ACTUAL GLOBAL ECONOMIC CRISIS

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Abstract . There is presented the methodic connections between some concepts and methods to be used in the management of the global & national crisis and of the sustainable development in Romania, Restructuring / reengineering of the firm as well as the more general problem of technological and managerial evolution by analogy with evolution theory in biology are also presented.

Key words: economic crisis, restructuring, sustainable development, EU funds.

1. Introduction

The global phase of the actual financial and economic crisis, started in the fall of 2008 in USA by banking and the real-estate sector, with amplified echo in all economic sectors, mainly in the machine-building industry, with spectacular bankruptcy, spread very quickly all over the world as a consequence of globalization and economic interdependencies. Signs of the financial crisis appeared in Asia since 2007.

It represents the contradiction between the way of use and waste the limited level of the resources in the race of getting a higher standard of life based on a false system of values, when money are not correctly covered by goods. The crisis was spreading by the snow - ball effect in all sectors. Debates on strategies are organized by G8 and G20 aiming a coordinated action against crisis, as well as academic debates on the neo-liberal and neo-Marxist theories on the most suitable way of future organization of the global financial and economic system /8,10,20/.

A new background for sustainable development after the crisis will be stopped is needed, by reforms in the finance and economy. The Keynesian approach of the state involvement in economy to keep the activity started to be applied again, like after the great crisis in 1929-1933 and a new form of a New Deal in USA in time of F.D. Roosevelt as president is experienced at the end of the G.W. Bush's presidency era and the beginning of the B. Obama's one.

The actual crisis has specific characteristics generated by globalization and the IT&C development which increase the level of interdependencies and can create conditions of more coordinated actions to stop the economic decrease and to restart a more sustainable development, by rapid spreading of new technologies and innovative solutions, especially in power generation, economic mechanism, food and health care, by international cooperation, or, on contrary, can amplify the negative effects, in case of wrong economic and financial decisions and lack of a good real cooperation in defeating crisis. Already now there is consistently reduced the wealth of nations, as well as at the individual level, as crisis effects. Some scenarios based on conspiracy theory asserting that the actual crisis was planned and started by occult groups aiming to get a global financial supremacy are also developed.

2. Need for restructuring

Restructuring of the firm is still understood by some managers as a change only in the organization structure of the firm, regarding mainly the human resources. Such meaning is not sufficient and can be toxic to represent the complex contents of this action, as restructuring involves not only structure(S), but also resources (R), human relations (Ru), know-how(K) and technological (T) changes in the production flows. If we represent the firm by $F = \{ R, S, K, Ru \}$ and T
 $\{ R, S, K, Ru \} \xrightarrow{T} O$, where O represents the managerial objectives, expressed by economic indicators, then restructuring can be represented by the operator scheme

$$\begin{array}{ccc} & T & \\ \{ R, S, K, Ru, \} & \xrightarrow{\quad} & O \\ \varphi \downarrow & & \downarrow \psi \\ \{ R', S', K', Ru' \} & \xrightarrow{T'} & O' \end{array}$$

and $\tau: (T \rightarrow T')$ (1)

where O' represent the new objectives generating the need for restructuring, and the operators φ , ψ and τ represent reorientation, restructuring and, respectively, technology innovation or changes. Consequently, $\rho = \psi \circ \varphi \circ \tau$ (2), where $\circ$ represents the composition of operators, represents reengineering of the firm,

or its reinvention /1,2,3,4/. *Mutatis mutandis*, this approach can be applied to macroeconomic sectors too, when important changing attitudes are recommended, to be more competitive on the market, like in critical time of economic crisis or need of changes imposed by the social and economic environment. Two attitudes are manifest concerning the management: *the reactive and the proactive one*, in case of firms acting like adaptive systems, to ensure the dynamic stability and survival of the firm. It is obvious that the proactive attitude cultivate innovation and can lead to the restructuring or even reengineering of the firm, considered as a cybernetic system with adaptive variable structure, where operators ρ , ψ , ϕ , τ represent the managerial actions at strategic and operative levels.

At the strategic global scale it became obvious the very important role of China, the most dynamic developing economy, as well as of other emergent economies in coming back to a normalization in a new future model for a sustainable development. Not yet being unanimously accepted, will lead such a model to a new monetary system, and if yes, who will impose it if important changes and glides will take place in the power structure of the world? Aiming to keep their chances in these new conditions, the BRIC group (Brazil, Russia, India and China) try to consolidate its influence on the market at the global scale concerning resources, production and finance.

3. Value Analysis/Engineering (VA/E) and Artificial Intelligence – a possible positive approach

The well-known VA/E is an efficient method used on design and redesign products to maximize the value of the ratio quality/price. But don't forget that this method was initially proposed by Miles to improve an organization structure at GEC. It is obvious that VA/E and Problem Analysis /7,11,3,4,5/ could provide better solutions in redesign strategies and organization structures at national and global scale than those imposed only by power based political or military decisions.

In USA the program of the new president B.Obama was validated by the Congress and 785 bln dollars were initially allocated not only to bailout great financial institutions, corporations and banks, to restart financial operations of firms and banks, as in case of the Paterson's 700 bln program at the end of the G.W.Bush's presidency, but also to save jobs and to create new jobs, mainly in the automotive and energy sectors, as well as directed to education, health and research. Similar programs were adopted in EU and Japan. But the solutions could not be the same everywhere due to different economic scale and level of economies. Such differences are obvious in case of Romania and other emergent new members of UE and the old more developed countries, with more developed financial systems, where more money is run, including for CEO bonuses. The VA/E and PA used in these cases would find more efficient economic solutions than those directed only by some groups of interest. This approach must answer to some questions like the following:

- What is the real problem?
- How could be solved the problem (potential solutions)?
- How is recommendable to proceed (which one is the best)?
- How much will cost the proposed solution?
- What are the potential problems (generated by applying it)?
- What risk is associated to the chosen solution?

The engineering approach deserves a special attention, being directed by logic and managerial spirit. Unfortunately in Romania many actions were taken after dec.1989 neglecting this character in developing the economic reform for which society was not enough prepared to ensure a good balance between the individual and general interests, amplifying a morale and institutional crisis by corruption and inefficient public management. Therefore, just as hypothesis and not promoting the social-economic mechanic in solving problems, we can think if it wouldn't be possible to generate better solutions by using Artificial Intelligence (AI) with higher social gain instead of incompetent and immoral decision makers, as many of the so called political elite are evaluated by a great part of the society, not only in Romania, but in many other countries too.

Mathematical modeling and simulation of the rational behavior in decision making is inspired by and can influence the human real behavior. Therefore, such an approach could be used just as a term of comparison for the human action, not influenced by polluted politics and interests, being built based only

on principles of rationality and efficiency for a better life in the model used by the designer. The *win-win games* can inspire better solutions than *zero-sum games*. F.Hayek follows such an approach, of win-win game model – he called it *catallexy*. The third way (Timbergen) can be identified as well when what is good is to be preserved as a successful solution born from two contradictory systems. *Mutatis mutandis*, this approach could be useful in solving problems generated by the actual crisis/21/.

There is reconsidered the balance of forces and attitudes in solving conflictual situations, there is prepared introduction of new technologies in power generation and management, to create conditions for sustainable development by better use the real potential of national or regional economies and the environment protection.

The project management method used in case of the sustainable development projects taking into account the VA/E and PA approach will lead to better economic, managerial and ethic results in solving problems generated by the greatest economic and financial crisis of the last 80 years.

4. Economic & social development, a form of general evolution on the planet

Evolution is usually a result of the action of some external or internal influences forcing an adaptive system to change its structure to face these influences. In case of the beings the evolution theory elaborated by Darwin/14/ at the end of the 19-th century, represented a spectacular and controversy mutation, an alternative to the religious creationism. It seems that some characteristics of evolution and principles stated by Darwin in his theory of evolution of species, enriched by Genetics with research at the molecular and cellular level, could be identified *mutatis mutandis* also in case of the technological evolution and, more generally, in case of the social-economic development, where can be identified invariants like:

- Enhanced adaptability to survive, the advantage of the better adapted
- Propagation of positive characteristics obtained through evolution, improving performance
- Changes are results of structural and/or behavior mutations, which sometimes are random, but usually are rationally produced, rationality itself being defined respecting the principle of non-contradiction, evidenced by K.Popper as a base of the logic of scientific research/ 12 /.

As in case of evolution of beings, as a result of random mutations at the RNA/DNA level, in case of artifacts, where mutations are determined by innovation, the new solutions can be sometimes a random result, but more frequently could be a result of research determined by an expectation or need in the collective subconscious, concerning a new product or a new technology. As an example, the actual IT&C equipment is a result of a long evolution from the abacus and the Babage's calculator, through machines using Bool algebra and electronic circuits with electronic bulbs and then transistors, until the VLSIC used in our time, with spectacular mutations concerning speed and storage capacity as well as the operator-computer interaction offering a large variety of problems solved by using complex software and hardware. All these evolutions are a result of included in the same logic of the progress based on the gain of performance expected by the user's objectives and the mutual enhance between the designer, product and user which determined an exponential technologic development. Human performance will increase in a spectacular way by the corporal combination human-technology, known as *cyborg*, initially a SF creation, now becoming reality. The result of such evolution is expected and is becoming step by step reality the self design and processing of computers and robots/20/. New robot solutions are based on "*thinking*", more than the old *trial and error* principle, like in case of the *Starfish* robot/19,20/, keeping the main principle of "education", the reward for good results in optimization of objective functions of the logical-mathematical models. Solutions for cosmic research are also developing in some universities from USA, EU Russia and Japan. Anticipations can be made the actual limits, that IA will surpass the average natural intelligence (NI) /1,2,16/, especially if the mass-education will be not enough stimulative and humans will become more and more dependent on technology in a *virtual reality* instead of better understanding the *real one*. Therefore a transfer of some decision making and management attributes and functions to AI able to react in a more appropriate way than humans not only in routine situations but also in case of crisis, is fully expected in the not so far future. The SF anticipations made by R.Kurzweil/16/, exceeding these remarks, are supposing solutions which put in discussion even the

concept and reality of the “human being”, but which could become practical at the end of the 21-st century or even earlier. And let’s hope the pessimistic forecasts of C.Sagan and S.Howpkins regarding possible self-destruction of the mankind will not fulfill.

In these conditions *the system of values at the individual and societal levels and the right attitude towards the environment and natural resources, as well as the innovative human capacity and realization of the correct and sustainable development become the main commands of our time.*

5. Sustainable development - solution against economic crises

The sustainable development is a concept born after “The Limits of Growth”, a Report for the Club of Rome, was published. There were signals about the uncontrolled development and environment aggression. Other models, more elaborated and based on regional approaches followed/1,8,9,17,18/. Problems of environment protection started to be discussed on special devoted international conferences in Stockholm(1972) and Rio de Janeiro(1992). Then, the Conference Rio+5 “Signals of Change” with the final conclusion stated in the Kyoto Protocol (1997), established as objectives reduction of CO2 emission and biological diversity salvation. Similar problems were discussed at the conference devoted to sustainable development in Johannesburg (2002). Special institutions and committees were established to control the situation regarding sustainable development and environment protection, like WWI, WCED, WBCSD /17,18/. WBCSD (World Business Council for Sustainable Development) focused attention on the Strategy 2015 on the following domains;

- Energy & Climate
- Development
- Business Role

Objectives for 2015 are established in the “Millenium Development Goals” to be:

- Reduction by 50% of the number of people with income less than 1\$/day
- Literacy schooling of all children
- Stop growing of SIDA and HIV affected people.

A new model of development, based on alternative energy like solar, wind, hydro, geothermal, bio-mass, tide is under discussion etc. Recycling and reuse of some materials and products is intensified as a mass movement in USA, Japan and EU, in parallel with consumption reduction, as *a very convenient form of resource economy by waste elimination.*

The New Thinking proposes a reasonable standard of life and cultural diversity and resilience of the biosphere for human actions sustainability. New aspects regarding food and health arise, as well as the equity criteria between the generations, conditioning the future of the mankind.

It is obvious *the special role of education, creativity, technological innovation, and management, as factors for the sustainable development (fig.1, fig.2).* The Department of Economic and Social Affairs (DESA) of the ONU Secretariat elaborated 15 major domains of interest and 96 indicators (see Appendix) for evaluation of human actions and ecological requirements and to direct future actions at local and global levels /18/. Databases and conditions for just in time interventions are needed to solve possible problems.

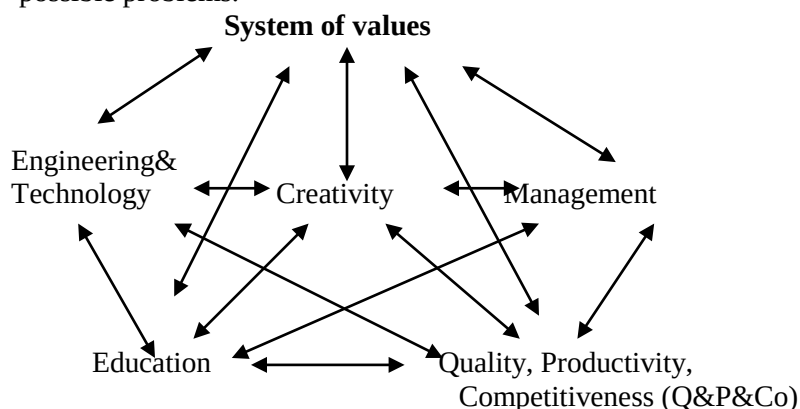


Fig. 1. Factors and their interactions in economic-social production

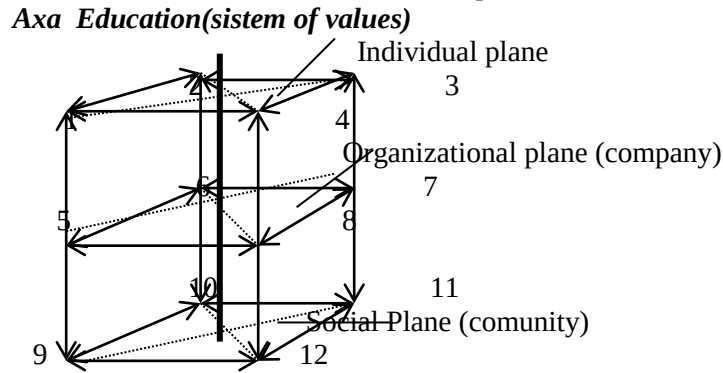


Fig.2. Relations individuals-organization-society

Table 1 Significance of numbers in fig.2

No.	<i>Individual level</i>	No	<i>Organization level</i>	No.	<i>National & global level</i>
1.	Professional education	5.	Mission, activity areas	9.	Civilization degree
2.	Material welfare	6.	Resources, P & Q & Co	10.	GDP/inhabitant
3.	Motivation & individual satisfaction	7.	Market share, culture of organization	11.	Culture, power, institutional influence
4.	Personal environment & human relations	8.	Organizational environment, employees & shareholders satisfaction	12.	Social harmony and environment-society harmony

Internet can ensure communication, being in the same useful in creating a new mentality concerning the man and environment, but there is not excluded any form of manipulation developed and adapted to modern IT&C systems. *The role of education in creating and developing discernment with action consequences at the family level and at institutional level as well by public education system is immense, as man is not only a beneficiary of the nature richness but also a part of the nature (fig.2). . The crisis creates problems and keep human intelligence in alert*

The study of history, or past successful solutions could be useful, but not enough, as new conditions create new problems, but can help to avoid former mistakes and couldn't be just copied, but adapted to the new context.

This *learning process* has as a good result in shortening crisis duration and diminishing its negative effects, as in case of crisis in the years '70 and '90 of the 20-th century and it is expected to be useful in passing through the actual crisis. *We learned that it is important to enhance creativity and innovation generating a new upsurge and maybe new paradigm regarding the development.*

In the postmodern and Darwinian spirit the multinationals & supermarkets towards the small boutiques, or virtual firms towards the classic shops, could be considered as a new variety or specie of firms new forms of practice the management functions of the production and trade, in new forms of structures and technologies. Bankruptcy and great changes concerning shareholders or new partnerships, especially in case of automobile production and trade can be considered stages in the life time of the companies, beyond the well-known phases, determined by specific crisis (of management, control, bureaucracy and saturation). The actual crisis is global, but its effects may be different in case of different countries, regions and economic sectors. *The crisis will have losers, but will have winners as well.*

Winners will be among the most dynamic firms and people defeating the inapt ones, as Darwin postulated in his work *Origin of Species*, which itself produced a major mutation in understanding nature, the human being and society.

6. Sustainable development in Romania

Being member of EU since 2007, Romania can access structural funds to diminish differences between the economic advanced old members and the new ones. To access these funds it is supposed to have absorption capacity by accepted projects /15/ enrolled in the main directions:

- *European Fund for Regional Development*, for infrastructure investments, technologic transfer and consulting for SMEs and local communities with EU contribution up to 85%
- *European Social Fund*, to reduce unemployment by reintegration and employers support to increase productivity, social inclusion of disadvantaged groups and improvement of the education system, inclusive the technical and vocational education, with the EU contribution up to 85%
- *Cohesion Fund*, for infrastructure projects for construction and modernization of the trans-european corridors and infrastructure for environment protection (water, sewerage, waste etc)
- *European Fund for Agriculture and Rural Development*
- *European Fund for Fishing*

The objectives are focused on :

- a) Enhance the economic competitiveness by research-development-innovation
- b) Improvement quality of life and of the environment
- c) Improvement of transport systems
- d) Human resources improvement, by basic and continuous education and equality of chance for all, against social exclusion etc
- e) Enhance the administration capacity by accelerating reform of the public management
- f) Transfrontiers cooperation in the Black sea region
- g) Transnational cooperation in the S-E region of Europe, Danube basin protection and natural risk protection
- h) Inter-regional cooperation (by INTERREG IVC, URBACT II, ESPON 2013, INTERACT 2007-2013) to enhance regional development, European competitiveness in the knowledge economy, urban development and territorial cooperation in 2007-2013)

Unfortunately shortcomings of economic and political culture with oriental and neo-feudal aspects encouraged corruption and opportunism, maintained by poverty of a large part of population and by the weakness of the justice system, lead to a slow pace of reforms at institutional level /1,4,6,21/. There is needed a higher level of professionalism, responsibility and morality of those who manage the national wealth and at the corporate level too, to improve quality, productivity and competitiveness of the Romanian economy /3,6/. There are a lot of National Agencies & Authorities and other governmental or public offices, as over-bureaucratic forms of management and waste of public money, (over 8.5% of GDP for salaries), but with poor practical results and being subordinated mainly to the economic and political interests of those who are in power. There is also necessary a better balance of the education system and the real needs of the economy, to ensure a higher level of added value in production and services and to exploit the most favorable directions for a sustainable development, using the real economic potential of the country, under the pressure of economic competition, but using all favorable opportunities for an efficient trade in the global economy. Agriculture, neglected till now, is on the first place on the list, able to transform Romania from a great importer of food now (70% of the internal consumption) into a great exporter accordingly its potential. Tourism also has a good potential, if the quality of services and infrastructure will be improved. Some industries like food industry, software production and IT&C, oil & gas industry, where there was a great experience, as well as chemical and some machine building industries must be rebuilt on new basis. In the same time there is necessary to elaborate and use an efficient fiscal system encouraging entrepreneurship and tax collection, not by inventing new taxation forms, which finally prove to be pernicious, like the recent regulations of lump taxation, which negatively affects the many SMEs, obliged to close the business. A restart of the crediting function, new facilities concerning the level of interests and taxes and a more accurate control of the financial sector seems to be a condition sine qua non to defeat the actual financial and economic crisis, when political and professional competence must be better balanced. There is also an undesirable

threat on the Romanian society in this time of crisis - the superposition of a political crisis with the economic crisis. It is due to the incapacity of the politicians to understand the real nature of the problems, *being unable to design an adequate strategy to face the crisis* and to propose a healthy sustainable economic development after the crisis, based on the real potential of the country and not on speculations and unfair business between the private and public sectors, as it was frequently done till now. There is obvious that crisis must produce a real change of mentality in public administration, as well as regarding main institutions of the state, able to keep democracy and social order (a new Constitution is necessary?). After 20 years since the fall of the communist regime and transition to the market economy the pace of reforms is far to be satisfactory in all sectors. Lack of vision and of strategy against the crisis and the endemic corruption in the hypertrophied public sector amplified the negative effects of the crisis, of a too high recession in 2009 (foreseen 8-9%) and of the weakness of the actual state institutions. Fortunately the EU membership is a good shield to keep democracy, but some skids are still possible. The loans taken from IMF (12.9 bil. Euro) and EU(6.5 bil. Euro) represent for the moment the salvation for some investments projects and for budgetary system, brought in a critical situation by the inability of the government in spending efficiently public money, to face the crisis and the unsatisfactory pace of reforms. Late and tough reforms imposed by the crisis are increasing unemployment and can generate social tensions. The new economic upsurge will take several years. The real success in recovering and sustainable development is conditioned by the right understanding of the relations of Romania with the global economy, based on its potential and on the opportunities offered by the new technologies. A good quality of the economic and political management at all levels of the Romanian society is necessary condition as well.

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Appendix. Main fields regarding the sustainable management ¹

No.	Field of interest	No.	Field of interest
A.	Poverty	H.	Earth and soil
B.	Government	I.	Oceans, seas, marine coasts
C.	Health	J.	Drinkable water
D.	Education	K.	Biodiversity
E.	Demography(Population)	L.	Economic development
F.	Natural Hazard	M.	Global Economic Partnership
G.	Atmosphere	N.	Consumption and production of industrial goods

¹ Source: Cap.40 of *Agenda 21*, with indicators revised in 2005. T these fields were initially expanded into 50 aspects for which 96 indicators for potential assessment and results on sustainable development are on the list.

