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Sociosynergistic Management of the Companies. Economic, Energetic and Ecologic Challenge¹

Summary

Sociosynergistic management is inevitable condition of nanotechnology tendency of value-creating process of the companies in incoming third level of social division of labor. This management is being a product of transdisciplinary nano-cognition and nano-projection of the systems there through creates for the management the operation base for system solution of economic effectiveness, energetic friendliness and ecologic safety of material-technological processes of the companies. He uncovers the sociosynergetics as a system entirety in the limits of abstract thinking, notion-categorical communication and knowingly-practical acting of the subject.

Introduction

Early in the 21st century, civilization fell into the situation when is not possible to continue in the value-creating process by existing technologies, existing sources of power and by existing ecological load on biodiversity of planet. Contemporary technologies of the companies within the frame of planet are in decisive extent none but multidisciplinary product of the science of first and second half of the 20th century. These technologies are possible to perceive as **macro technologies** and **micro technologies** and as such they are in prevalent extent

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historically overcome although they are not historically fully depleted. Industrial revolution period in the late 90's of the 20th century culminates and nano-technologies and nano-biotechnologies come into the sphere of value-creating processes.

Macro and micro technologies were being the product mainly of socio information and partial scientific information. In fact, it is concerned to the technologies of *natural inevitability economics* (connection of two production factor) and *economics of chaos* (connection of three production factor). Otherwise said, these are the economics of the 1st and 2nd level of social division of labor that are not historically capable to satisfy a latter interest of consumer (Turan, 2005: 321–343). These are technologies that repose on flow of information only from macro-, micro- and mega- know edge of objective reality.

Nowadays, in light of generating of final product for consumer, the reproduction of material-technological processes of companies entreats for flow of information from nano- know edge of objective reality. Otherwise said, generating of final product for consumer will be dictated by *nanotechnologies* and *nanobiotechnologies*, i.e. the technologies of 3rd level of social division of labor. These technologies cannot be created in the science area bounded whether by several related disciplines of science or by alignment of related disciplines of science. Civilization is compelled to gain upon the spatial universality in cognition, in cogitation and knowingly-practical acting of human in all scopes of value-creating process. Approach to universality, to entire systematic redounds only by the prism of the concentration, centralization and integration of scientific information and scientific intelligence. It is the approach of multi-disciplinary and trans-disciplinary evolution of cognition, formation of science entirety and continuity of practice.

To understand the basis of company management as being a theory and practice of its reproduction processes means to understand mainly the fact which is in what economic level ranges its value-creation process. Therefore, our role will be to uncover mainly the basis of three historical level of civilization economic evolution. This view enables to pierce into the basis of three historical levels of the management: sociomanagement, scientific (chaotic) management and sociosynergetical management. Sociosynergetical management is the management of dynamic harmony establishing in reproduction processes of a company in the extent of general economic evolution in which is its value-creation process situated.

In recent years, there is an opinion intensively submitted that the path towards the new technologies will be initiated by extensive society informatization, by installing the internet to every household, to every educational institution, to each personal entity. But if the evolution of human being manipulating new information technologies stays abreast of socio information, let us say of partial scientific information, thereafter the general saturation of society by hardware-software equipment shall be functionless in the sphere of enforcement of new technologies.

Very accessing of modern hardware-software products to human factor, without developing its intelligence to the level of system-entire cogitation and cognition will bring scarcely-any progress in the development of new technologies of society value-creating process. Society informatisation is just sine qua non for transition to new level of social division of labor.

Only such human factor will have been a merit for modern technological development of society that through the highly-developed hardware-software equipment manages to concentrate, centralize and integrate multi-disciplinary and trans-disciplinary *nano spatial* flow of information to the system-entire quality – sociosynergetics. Otherwise said, it's not enough to master heterogeneous software programs, but also it is inevitable to be capable of system-entire cogitation and *nano spatial* perception in cognition and practice.

In the value-creating process, new technologies call is going to request a presence of the human factor with intelligential level of cognition abreast of sociosynergetical flow of information. Such flow of information can come into being only on the assumption that the science instrumentation, the science technologies and the science industry enable to observe and to conduct a study of the nano space of synergistic, biosynergistic, psychosynergistic and sociosynergistic systems.

Sociosynergetical flow of information does not come into being only as a product of integration, concentration and centralization of scientific *micro spatial* cognition, but the cognition acquired by the pervasion into the nano space of sociosynergistic elements, into the nano space of biodiversity cellular equipment and into the nano space of psychosynergistic and sociosynergistic human existence substance. Everywhere where scientific cognition cannot pervade into the nano structures of the world by the science instrumentation, science technologies and by the science industry, all over there scientific cognition development was being brought to a standstill inexorably in the second level quality of social division of labor.

Since the beginning of new millennium, sociosynergetics as a system entire paradigm predatory asserts oneself in the role of universal know how of cogitation and action of modern human. It performs as epistemological-methodological base of system integration, concentration and centralization of scientific cognition within the frame of galaxy of partial science branches of the nature and society.

Much of these branches will lose its substantiation under the thumb of epistemological-methodological base of sociosynergetics and will come to be only a simple part of science history. Each of these disciplines has substantiation only on the assumption that disposes by inherent philosophy of the content and structure of its research subject.

Nevertheless, if individual philosophical constructions contradict each other by kindred scientific disciplines search subject, then their philosophy does not reflect the objective reality of searched system functioning per quod the epistemological-methodological chaos is being created in general scientific cognition.

Not once, the fact that for example the partial science branch philosophy from the field of chemical relation contradicts the partial science branch philosophy from the field of physical or mechanical relation which means that epistemological-methodological base for only either of them can be correct, or for all of them is incorrect, is being a classic discourse of chaos in the special sciences development. It is inasmuch as both science disciplines did not cross from micro space of cognition to the nano space of cognition and thereby staid only on level of chaos of partial scientific cognizance of objective reality.

1. Toward the economy and its economics

Sociosynergetical conception of system entire science classifies historic evolution of the civilization economy into three basic historic stages:

- Natural inevitability economy.
- Chaos economy.
- Sociosynergetical economy (knowledge economy).

Within the frame of this classification, we analyze also historic evolution of economic theory whereby we classify:

- Economics of natural inevitability economy,
- Economics of chaos economy,
- Economics of sociosynergetical economy (knowledge economy).

2. Economics of natural inevitability economy

Natural inevitability economy and its economics are such old as social movement by itself. Since time out of mind, a human had to reproduce the process of the value creation and, in conjunction with nature, to look for the most effective path towards the acquirement of final product. Even without appreciation, he had to objectively economically think and act. It was economics of socio flow of information, economics of macro technologies, an economic cognition only of socio intelligential levels of subject adherent to the economy of natural conditions, natural resources and forces with inevitability of survival. Sociomanagement is incident to natural inevitability economy and rests only on simple macro-information flow, i.e. on socioinformation.

Natural inevitability economy is and keeps being a part of first level of social division of labor and in the relation "human – work subject" is identified above all by bare connection of live work with natural resources. Economics of natural inevitability economy existed and exists especially in the heads of people and spouts from simple socio cognition acquired by experiences of generations, whereby the natural inevitability economy by itself was and is determine. Chaos did not prevail in the original natural inevitability economy yet, whereas, the harmonic conditions mostly of natural existence eliminated it, what maintained

socio relations in simple natural harmony. Chaos starts to be characteristic for natural inevitability economy only in consequence of the economy of chaos formation, which absorbs natural inevitability economy. However, natural inevitability economy persists in the structure of social processes reproduction as independent socio flow of information and its level of intelligence of the subject.

Economics of natural inevitability economy did not have to solve the riddles of rentability, the consumption of energy was limited by natural conditions by themselves and ecological cogitation went from the inevitability to preserve the bare physical existence of individual and community. Basic antagonistic contradiction of history – **“contradiction between the process of values production and process of values theft”** was under genesis and was staying hidden in individual relations of concrete community. Economics of natural inevitability economy starts to write own history as **theoretic system** only from the moment when the process of work theft and values theft crosses the borders of concrete community and becomes inter communal. It is historic paradox when the phenomenon, peculiar to higher – 2nd level of social division of labor (the work and values theft), creates the premises to theoretically clarify the phenomenon of lower – 1st level of social division of labor.

Natural inevitability economy as economy immanent to the first level of social division of labor was and is staying to be typical by following lines:

- Rests on only two production factors connection (live work and natural sources);
- Reproduction process of production factors is fully determined by natural conditions and by primitive socio flow of information;
- Rests on naturalness of energy flows given by the nature;
- Material base of value-creating process rests only on natural sources and normally balances with natural existence of human;
- Live work of human is only source of values;
- Is friendly to biodiversity of planet;
- Value-creating process is determine only by **“macro technologies”** and the product is in **“macro tolerance”**;
- Central interest of human rests on generation reproduction and on the bare physical existence preservation;
- World-view and value orientation of consumer’s interest is determined only by socio flow of information and its corresponding intelligential levels of subject;
- Does not know ideological and political destruction of value-creating process;
- Creation and development of work and values theft process degrade the human factor to natural resource (slave, vassal);
- Initially work tool, working means, gets out of “human- work subject” relation in consequence of work and values theft process and changes into the gun in “human- human” relation.

All economic theories that eventuated in the creation of process of primal accumulation of the capital were the economics of natural inevitability economy. Process of primal accumulation of the capital, which was running against a background of the creation of big sea empires and simultaneously against a background of the internalization of work and values theft process, determines the creation and development of economy of chaos and at the same time also of its economic theory.

3. Economics of chaos economy

Entry of capital (mostly industrial) to the sphere of social processes reproduction incites the creation and development of chaos economy and its economic cogitation in conjunct with it.

History of economics of chaos economy is possible to date by the epoch of creation of so-called classic economic theory (William Petty, Adam Smith, and David Ricardo). Development of economics of chaos economy subsequently copied individual stages of capital reproduction and in fact continues (through Keynes, neo-Keynes theory and post-Keynes theory) to the present, when, in consequence of deep pervasion of ideology and politics to its structure and contents, finds itself in dead end of its own epistemological-methodological construction. Existing trends of general economic theory are all without exception the forms of political economics and in fact still is not possible to think of them as science, whereas more or less they only quantitatively describe discontinuous reproduction of individual production factors in chaos, whereby the capital, its circular flow and turnover represent dominant position in this chaos.

Scientific management is internally incident to the chaos economy. It is a management flowing from the quality of micro-information and as such is in its basis the management of the chaos. Reproduction of value-creation processes is solved only partially through the view of the profit, of the circulation and capital turnover. For the civilization evolution, it is historically overcome.

Profit and surplus value law in connection with market mechanism patterns escalates above all the filling up of subjective customer interest through the maximization of energetic flows, flow of capital and usage of human resources. On the one hand, maximization of energy, capital and human flows is determined by dynamic development of scientific information, which simultaneously develops value-creating process. On the other hand, it is activated by value theft process eventuating into ***economic, energetic and ecologic terrorism***.

Chaos economy is possible to identify by following lines:

- Rests on discontinuous connections of three production factors (live work, natural sources, a capital), the process of production factors reproduction is solved in parts;
- Contradiction between the value-creating process and value theft process is basic antagonistic contradiction of development;

- Backward logistics of value-creating process projection is practically not realized;
- Rests on maximization of energetic flows;
- Material basis of energies and value-creating process rests in many respects on using the elements and their allied substances dangerous for life of human and biodiversity of planet;
- Materialized work done comes to be an important part of value-creating process;
- Technologies of value-creating process are based on scientific information (normally partial) and intellectual levels of the subject corresponding to it;
- Value-creating process is determined by “micro technologies” and the product is in “micro tolerance”;
- Capital subserves dominant function from among production factors;
- Subjectively motivated customer’s interest making towards the maximization of consumption is determining;
- Is thoughtless toward the human and biodiversity of planet;
- Value-creating process is projected and realized only in light of final product usage;
- Degrades human factor (live work) to the commodity;
- Solves the remuneration only depending upon the profit;
- Rests on maximization of aggregate demand of households, companies, states and of foreign trade;
- In final phase of its development, it bases the extension value-creating process reproduction above all on growing depth of all factors of aggregate consumption;
- Social processes reproduction is determined in crucial margin by the value theft process;
- Is characteristic by destructive chaos of world-view, value, ideological and political customer’s interest;
- Law of the power predominates over the power of the law.

Especially from the end of the 20th century, the maximization of energetic flows in material-technological processes of companies accelerated in so-called the most advanced industrialized countries in consequence of extremely dynamic and extensive pervasion of “micro technologies” into the value-creating processes of civilization. Energetic flow maximization is closely associated with extensive reproduction of consumption of all aggregate factors – of the households, the companies, of the state also of foreign trade.

Chaos economy is typical that produces the final product to fill subjectively developed customer’s interest, to which also the production of weapons and economic, energetic, ecological, fiscal and military terrorism linked with that integrally belong.

All so-called advanced industrialized countries of the world are in dead end of economic growth because they got stuck in “micro technologies” that are ener-

getically extremely challenging not only at the production of the product but also at its usage and accordingly in the process of its liquidation after usage by customer.

“Micro technologies”, as technologies immanent to second level of social division of labor, became energetic nightmare for so-called advanced industrialized countries (USA, Germany, Russia, Canada, Japan, Great Britain, Italy, France and Australia). Escape from this dead end is possible only by the prism of entry of technologies of new social division of labor – nanotechnologies, biotechnologies, psychosynergetical and sociosynergetical technologies.

On the present, it is already possible to say that all attempts to solve economic, energetic and ecological fastidiousness of value-creating process only by other development of “micro technologies” failed. Also in the 21st century, motor vehicle is one of predominant final product for the customer; therefore it is logical that the costs of the science led to another development of “micro technologies”. World automotive factories, especially Ford Motor, General Motors, Daimler Chrysler, Toyota Motor, Volkswagen, Honda Motor, are ranked among the first twenty companies that donated the most of the means to the science and research to make the production of motor vehicles economically, energetically and ecologically more efficient.

They are pressed to do that not only by concurrence within the frame of the sector but also by the growth of energy prices, by saturation of world market caused by this product and latterly also by increasing threat of the sanctions for widespread impact of this production and of this product usage on the environment. Meanwhile, world automotive factories derive the most profit not from the results of scientific research but from the displacement of existing technologies to the territories with cheaper manpower and with higher tolerance of environmental deterioration.

Kyoto protocol countries' attempt to stop 5% from the emission by twenty years bellow the mark in 1990 was not successful and already in 2004, the emission volume of these countries got closer back to the situation in 1990. Nevertheless, the USA that refused to sign this protocol, spew so much carbon oxide (7,067 milliard of tons – in 2004) as all signatory states of Kyoto protocol together [(2) 18]. Also in the 21st century, economically the most advanced country of the civilization continues in the intensification of ecological, energetic, fiscal and military terrorism by the prism of technologies of historically overcome social division of labor.

Arm in arm with this ecological terrorism, the process of energetic flow maximization continues and also economic terrorism, intensified by sharp rise in American dollar volume beyond the seas, accelerates through the growing dept of all factors of aggregate consumption. As far back as at the turn of the millennium, it was evident that the USA even the rest of the world will be afflicted by the fall of several big transnational monopolies that got stuck in the macro technologies of second level of social division of labor. All monopolies of the world, of which technological basis rests on the micro technologies, i.e. the technologies of

second level of social division of labor, inevitably will steer into the so-called red numbers in the next few years.

Thus, without the change of technologies (from micro- to nano-), they will cease to exist. However, the transition to advanced technological level is not real in many companies because they got stuck in the second level of social division of labor by their huge aggregate invested capital. For example, all automotive giants in the USA, that latterly found themselves in red numbers, found themselves in this situation. Automotive factory Ford in the USA is pressed to slash the volume of production at existing technologies and in the 3rd quarter of 2006 showed 5.8 milliards of dollars of deficit (165 milliards of Slovak crowns), whereby following last information 1.8 million of cars should be produced in the 1st half of 2006 but it is planned to produce only 1.3 million of units in the 2nd half of 2006 (TASR, 3.11.2006).

Also in Slovakia, we should learn from these trends of world monopolies that are technologically only in the second level of social division of labor. Anyhow, we should refuse to transfer of these technologies into our economic space. What we can obtain by this transfer today, tomorrow we will loose doubly-threelfold in economic, energetic, ecologic as well as in social field.

It is necessary to accentuate also the other tendency in the economy development of actually the most advanced industrialized countries and that is the increase of expenses for scientific research of the technologies of incoming new level of social division of labor. These technologies score mainly in the field of pharmaceutical industry, in electrical engineering, in the field of the electronics, in the software, hardware, telecommunications, in genetic engineering and especially in the field of genetic food production. All of these are the technologies of nano-space and nano-tolerance of the product, which is not possible to project and realize without sociosynergetical flow of information and without sociosynergetical intelligential level of the subject.

Finding that such pharmaceutical giants as Pfizer (USA), Johnson & Johnson (USA), GlaxoSmithKline (UK), Novartis (Switzerland), Sanofi-Anetis (France), Roche (Switzerland) appeared among the first twenty world companies according to the aggregate invested capital in the science and research, was the biggest surprise for British Department of Trade and Industry, which compiles above mentioned scale from 1992. Technologies in value-creating processes of these companies are based on system-entire flow of information – flow of synergetical, biosynergetical, psychosynergetical and sociosynergetical quality.

Similar technologies, the technologies of nano space, provide high competitive advantage also for the companies from the other spheres of the production, for example Microsoft USA – software, Siemens Germany – electrotechnics, Samsung Electronics South Korea – electrical engineering, IBM USA – hardware, Intel USA – technologies, hardware, Nokia Finland – telecommunications, Sony Japan – electronics.

Material-technological equipment of value-creating processes of these successful companies is immanent already to the new – 3rd level of social division

of labor and these companies are belonging by their research subject in the new sociosynergetical economy and in its economic science – sociosynergetical economy.

4. Sociosynergetical economics of sociosynergetical economy (knowledge economy)

Sociosynergetical conception of science makes it possible to form the new paradigm also in the space of economic theory and economic practice. Formation of new economic theory – *sociosynergetical economics* is possible to date to the beginning of the 21st century. Its real basis in the reproduction processes practice is formed from the 40's of the 20th century. Sociosynergetical economic theory as well as sociosynergetical philosophy is objective consequence of the processes of the concentration, centralization and integration of transdisciplinary scientific cognition and scientific intelligence.

“We found ourselves at the time of big transformation: already about twenty years the economy transformation from industrial to new usually called as knowledge economy runs (...). All around, the organization of companies, the management and employees wherein, the way of work and of management, everything rises higher standard of intelligence” (Jirasek, 2006: 67–73).

Sociosynergetical economic theory and sociosynergetical quality of economic reproduction of social processes is a product of intelligential levels of subject incumbent on sociosynergetical flow of information, i.e. on the subject of sociosynergetical information, subject of partial sociosynergetical intelligence and on the subject of sociosynergetical intelligence (Turan, 2006: 335–343).

Thus, it is not possible to perceive sociosynergetical economics as some absolutely circumscribed special branch of science, but as spatial, system-entire approach to the substance of the society reproduction processes and its aggregate factors – the companies, the households, the state as well as foreign trade in globalizing space of the world civilization.

Company reproduction processes in third level of social division of labor objectively require system-entire management, i.e. sociosynergetical management which is not real without transdisciplinary cognition of the systems minimally in the level of nano-perception of objective reality.

Sociosynergetical economic theory is a paradigm about the third level of social division of labor substance. But simultaneously, sociosynergetical economic theory is only relatively independent subsystem of entire sociosynergetical science and as such rests on achieved level of cognition not only of partial socio sciences but also of all synergetical, biosynergetical and psychosynergetical sciences as well as of the sciences of system-entire sociosynergetic human substance. Otherwise said, sociosynergetical economic theory is strictly transdisciplinary cognition product.

Sociosynergetical economics identifies sociosynergetical economy as the economy of transdisciplinary system entirety by following lines:

- Rests on spatial integrity (not discontinuity) of four production factors (live work, natural sources, the capital and sociosynergetical information);
- Process of reproduction of all production factors solves within the frame of system entirety;
- Backward logistics becomes necessary integral part of spatially system-entire projection of value-creating process;
- Human individual has all assumptions to reach the qualities of *self-managing* subject as being the system entirety;
- Value-creating process technologies are based on sociosynergetical information and the subject of sociosynergetical intelligence becomes historically determining production factor (remark) whereas *equal status* of all production factors in value-creating process is respected;
- Eventuates inevitably in the minimization of energetic flows;
- Energetic base is based on environmental safe natural sources usage from the space of synergistic elements determining the life as fourth dimension and on alternative sources usage from the space of planet biodiversity;
- Value-creating process is determined by nano technologies, biotechnologies and modern product is mainly in the nano tolerance (Turan, Turanova, 2007: 447–450);
- Solves remuneration pursuant to exactly defined volume and quality of live work on surplus value of the product;
- Objective customer's interest, as being sociosynergetical phenomenon, is determining in light of the final product production and usage;
- Projects the reproduction of social processes to the extent that everybody should have inalienable right to the process of values creation and nobody should have the possibility to alienate the values;
- Power of the law predominates over the law of the power.

Sociosynergetical economics as economic science of the *third level* of social division of labor does not solve only the problems all-economic evolution but enables fully-fledged epistemological- methodological orientation in contemporary civilization evolution complex problems solving. It enables to us the system-entire view not only of value-creating process reproduction and value-theft process in the society but it is also starting point for entire spatial projection and for solving of the complex of productive-economic, social-political, moral-ethic, aesthetical as well as environmental relations.

5. Sociosynergetical economy contra chaos economy

Actual evolution of civilization is determined by historical competition between dynamically incoming third level of social division of labor and historically overcome second level of social division of labor. There are all existing forms

of competition against a background of this basic conflict of humankind. Phenomenon of competition exists as unceasing conflict among individual economies of the world as well as within the frame of these economies. This conflict comes across above all as multi-level competition of all historic levels of social division of labor existing in the concrete society structure and various levels material-technological processes linked with that.

Competition is historically linked with the entry of capital to the reproduction of value-creating processes which simultaneously means that history of competition is in fact the history of the capital circular flow and turnover against a background of its processes of the concentration, centralization, integration and globalization. It is simultaneously the history of energetic flows maximization, the history of economic, energetic, fiscal, ecological and military terrorism.

There are many theoretic conceptions about competition that have different communicative value and are analyzed from various viewing angles. Sociosynergetical economic science studies the phenomenon of competition especially within the frame of following viewing angles:

- Competition within the frame of the branches;
- Inter-branch competition;
- Competition within the frame of concrete level of social division of labor;
- Competition among the levels of social division of labor.

Nowadays, all historically accrued technologies (macro-, micro-, nano-) are functional in advanced industrialized countries of the world within the frame of their economic structure and many times simultaneously within the frame of that same branch.

These technologies affect wide-spectrally also inter-branch competition whereby blind tangle of competitive relations came into being. These relations were not possible to make transparent through the economics of natural inevitability economy neither through the economics of chaos economy. These economic theories did not dispose by corresponding epistemological-methodological basis. System transparency is made possible only by sociosynergetical economics which is not only epistemological-methodologically equipped for this but simultaneously is equipped also by the quality of its flow of information and sociosynergetical intelligential level of corresponding science subject. It is desirable to put one's mind to the phenomenon of competition in special study.

Conclusions

Sociosynergetics as a new epistemological-methodological paradigm is being presented by the author as a product of the integration, concentration and centralization of the science knowledge and science intelligence. Definition of sociosynergetical information as being historical fourth production factor of civilization determining the dynamic coming of new social division of labor is epistemological-methodological domain of the author.

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Zarządzanie sociosynergiczne przedsiębiorstw. Wyzwania ekonomiczne, energiczne i ekologiczne

Streszczenie

Zarządzanie sociosynergetyczne jest nieuniknioną tendencją w czasach rozwoju nanotechnologii i tworzy podwaliny trójwymiarowego społecznego podziału pracy. Kształtuje w zarządzaniu firmami bazę operacyjną niezbędną dla rozwiązywania problemów ekonomicznej skuteczności, energicznej życzliwości i bezpieczeństwa ekologicznego funkcjonowania przedsiębiorstw.