The Universitary Educational System, Cibernetic System

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Abstract:
The national system of higher education shall solve one of the most difficult and most important social and human issues – the education and training of the young generation, of the labour hand. The system of higher education appears as a subsystem of the national educational system and of the society.

That is why it appears the urgency of the artificial unrestriction of the university educational subsystem by the economy system. Economy’s vision of the university’s education subsystem must respond in these conditions to the following questions: What services and under what form should give the university at a time? Who should provide these services? What methods and strategies will be addressed and who will be the beneficiaries of these services?

Key words: social system, education system, optimization

JEL classification: A2, H52, H75

The development of education, in general, and of educational system, in particular, have led to the appearance, in each country, a series of institutions of higher education of different levels, shapes and forms, which form the national system of higher education of that country, system designed, organized and operating under the general principles of general educational principles with organizational character, and others with legal character.

Thus, the university national system of education in Romania analyzed from the cybernetics perspective (Fig. 1) is a subsystem of the global economic and social system, which presents on the one hand the requirements of contemporary economic and social education on the younger generation, the training of the and labour hand and specialists and on the other hand - the purpose, recovery and efficiency of institutions of higher education and, materialization in its specific product - trained people, labour force, professionals able to integrate themselves efficient and creative spirit in the economic and social activities. Always between the entry and exit flows act over a loop of adjustment and optimization, called reverse connection (feedback), which is characterized by dynamism and openness to new, developing and acting in accordance with the economic and social requirements, according to the scientific, cultural and technical progress, with the Romanian people’s aspirations, in terms of civil society and the democratic state.
As a subsystem of the educational system, the contemporary higher educational system from the cybernetic perspective, has few defining characteristics:
- it is an opened system influenced by the global social and economic system and by the other social subsystems (politic, cultural, social) under the organizational aspect, the circulated contents and the used methods;
- has a global character because it engages the assembly of the school organizations;
- has a teleological character, oriented toward reaching some finality on long and medium term;
- has a self controlling character, it analyzes all the time its own results, under which implement alternative strategies to achieve their educational purpose.

Inside the higher educational system are united specialised institutions involved in the process of academic training, research and culture, responsible to realise in an organised, planned and methodical way the educational desiderates, high level institutions which are organised and function correlated, following some principles, in order to realise some educational finalities, specific for a historical era. The design and the realisation of the academic educational functions through specific contents and methods, organised formal and informal are realised according to some general educational principles and correlated with the degree of the society’s economic, social and political development.

In the post-modern vision, the higher education system contains the assembly of the institutions which participate to the organization of the “school’s architecture”, the general development of the studies on cycles, majors etc. From this perspective the higher education system it is an open cybernetic system including besides the academic institutions with a formal character and specialised institutions in the informal training, like professional training centres, clubs, camps, tv and radio programs, on one hand and on the other hand various social agents with which the university establishes relationships based on contracts (organizations, professional schools, church) or consensual (family, local community). The analyses of the higher education system, in a limited sense, creates the methodological premise necessary for correct definition of its main cybernetic subsystem – educational process- where take place: training, base activity, designed and directed by the teachers and learning, realised by the student as an effect of the training.

The higher education system as a cybernetic system it is characterised through a high complexity, its structural elements being more numerous then the one mentioned frequently when is about the higher education system’s structure:
- the elements of command and control: principles and values used as reference criteria in various appreciations and decisions; educational politics which are finalised in priorities and strategic options; objectives at the system’s level, training cycles, study years and disciplines; curriculum, inclusive the procedures of current appreciation and examination; legislation, settlement including the one of authorization or institutional accreditation;
- structural elements: the segmentation on cycles and training forms;
- resources: the human resources (teachers, pre school and scholar population, managers and administrators at different levels and its characteristics – repartition on age and sex groups, professional competences and cognitive abilities, motivation etc.); material infrastructure (buildings, facilities, educational means etc.); financial resources.

The most important factors with a significant effect over the educational system, are:
- intellectual elements of the university’s educational offer, attached to the training process (curriculum, plans and training programs, majors and academic training profiles);
- financial management of the training processes at the university level;
- the human resources trained in the educational process (the number of the teaching staff, personal implied in the teaching activity, management ability for leading the academic process);
- the institutional and organizational frame at the level of the academic institutions;
- the material base of technical, informational and communicational endowment at the academic level.

The higher educational system can be analysed from the point of view of the external interaction having in view the fact that out of the cybernetic system’s properties it is known that any other cybernetic system it is opened, therefore interacts with the exterior through entrances and exists. If there are analysed the reports between the educational system and the exterior world, in general, can be used a relatively simple pattern, which emphasised the entrances at the level of goods and services, the
academic human resources and the system’s exits at the graduates level, the specialised labour force on a
certain field of activity.

Because of the fact that the academic educational system can be analysed as a subsystem of
the global social and economic system, the organization, the content and the principles which stay at the
base are determined by other economic and social systems characteristics. The higher education system
can influence other systems. The economic system offer a pragmatic justification of the educational
subsystem, and the higher education system having in view the economic state can propose itself either to
answer to some economic and social needs of the moment, either to meet the needs of the educated one,
or to prepare the necessary labour force for new types of activities and economic products which are
expected to predominate in the future. For example the economic and social processes which can defined
for the industrial economic revolution (computerized the production processes, to transform the science
into production factor) ask for the development of some superior human qualities, based on a high system
of personal values, necessary for compensating the impersonal nature of technology, what implies the
conception of some educational system which can prepare and to offer the opening toward the forms of
permanent education.

At its turn the politic subsystem, through dominant ideology, influence the value’s principles of
selection which can be transmitted through the academic education: an doctrinaire educational system,
preoccupied only by the transmission of some doctrines, an militant educational system, beside the
doctrine, can be transmitted a number of essential values, an educational system directed through
essential values of humanities or nondirective based on persuasion, without the intention of imposing
something. The politic subsystem influence equally, the population’s access at different levels of
education (limited, free, through various contests) of the access to decision making regarding the
educational system, as well as the participants to the decision making and to the levels of taking a
decision (national, regional, institutional).

The cultural subsystem offer the philosophical justification of the cultural opening toward an
differentiated education having in view the skills or an educational system leveller, having in view the
force with which are imposed in society the conceptions regarding the need of a leveller education,
democratic or aristocratic, or the prestige that have some scholar cultures conceptions: eclectic culture
(“only what it is more profound and better”), the open culture (“everything that it is made by the man in
the society”) or the necessity of a selective culture, produced by cultural elite.

Social system (the state, territorial communities) influence the orientation and the functioning of
the educational system through multiple mechanisms of regulation of the reports between the state and
educational system: normative regulations (laws, governmental decrees ministerial decisions, regional
agreements); institutional mechanisms of organising and administration of the educational system at
national level, regional, local and institutional (ministerial organisms, school inspectorates, administration
boards etc.); financial mechanisms (budgetary allocations, financial control etc.); control mechanisms
through objectives and results (the evaluation of the academic institutions based on the obtained
performances); the market mechanisms (the introduction of the competition’s mechanisms and the
fulfilment of some efficiency criteria, especially for the higher education system institutions).

The natural and demographic subsystem influences the size and the compositions of the student’s
flux which enter in the system, but the extension or the retraction of the school network, of the academic
staff having in view the birth rate, age weight etc. The demographic drop in the Romanian rural
communities, as a follow up of the birth rate’s drop and the young population’s migration to the urban
environment was strong, was dramatic diminished or disappeared completely of the school population. In
some villages there are no more students, and the schools are left. In other villages the number of students
is small being a big problem regarding the profitability of maintaining some schools.

The higher educational systems are differentiated between them by the institutional openness,
some of the being rigid (allowing only a limited access to an initial education), other are supple, in the
sense that they allow a permanent education and a continuous training, valuing the other informal
educative influences and non formal which people receive from the society meant to satisfy the demand
of the population’s training, trying to correlate the training offer with the labour market’s needs. The
institutions which answer to the need of the population’s education are numerous, but there is a lack of
flexibility having in view the training offer.

The analyses of the educational system supposes not only the component elements and the
existent relationships between its structure, its internal process, as well as the connections which they
develop with a economic, cultural and social environment in which it is integrated.
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