
ROMANIA WITHIN THE EUROPEAN UNION AND THE REQUIREMENTS OF THE KNOWLEDGE-BASED SOCIETY – THE NEED OF CATCHING-UP THROUGH ARTICULATED STRATEGIES

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Abstract:

The major challenge for individuals, firms and countries, as well was, until recently, to ensure sustainable global competitiveness; but, into the new circumstances of the knowledge-based society, this seems to be an even harder to get objective – especially for the entities which have not reached yet a minimal level of measurable performances on the defining coordinates of the knowledge based society. The conclusion – not only logical, but also necessary – is that any strategy aiming the transition to the knowledge-based society must integrate a series of well defining and indispensable elements. The measure of its efficiency and effectiveness will be given by its ability to ensure a sustainable competitiveness in the global, knowledge-based economy.

Keywords: *knowledge-based society, research-development-innovation, strategy, innovative performance and competitiveness*

There are some very different approaches of the **knowledge-based society** into the scientific literature; they belong to a large and diverse range of research fields and directions. By looking at them, in order to organize / structure the information and to create a sufficiently exhaustive and relevant **discussion framework**, able to characterize *the content and the forms* of the knowledge-based society, we can say that:

- the knowledge-based society is based on **developed actions** and **revealed consequences** – both of them manifested on (at least) the following **levels**:
 - *individual* – who is, finally, the only entity able to generate, use and valorize knowledge, and to create (through each one of these processes) another new loop on the knowledge spiral;
 - *school* – by this term meaning any institutionalized educational formula, where the knowledge transfer and the valorizing of the specialist and pedagogic know-how are the main important ways of creating / generating synergic effects by using knowledge;

- *government* – relevant entity if we refer at the public / political engagement assumed in favor (or not) of following the “path dependence” and at all the necessary actions needed in order to get (a country) fully integrated into the knowledge-based society at regional and global level;
- *organization* – of any kind (public and/or private, profit and/or non-profit); it represents the pattern / matrix within which the individual – by valorizing the instruments of the knowledge components acquired in school, and by taking into account all the governmental decisions (in favor or not, at some given time) – gives the entire measure of his potential and ability to valorize the opportunities of the organizational environment, by integrating them into his decisions, and to avoid / minimize the impact of the environmental threats / restrictions.
- **the instruments** which this pattern possesses refer to the following components:
 - *research-development-innovation* – because, in the new economy, based on knowledge (which is more and more assumed to be the new level of the economic development – characterized by the intensive use of knowledge, as the main factor of progress), the *innovation* (defined here as the concrete result of the research & development investment process) – is the generic source of any competitive advantage and the most important determinant of competitiveness (because, as the *UK Government White Paper on Competitiveness* emphasized in 1994, *innovation – as successfully exploitation of new ideas – is essential in order to realize long term competitiveness and to create wealth*. A country which likes to maintain itself into the top of its competitors needs innovative firms. Successfully innovations require a good management, adequate finances, abilities and aptitudes and a supportive business environment);
 - *information and communication technologies* – they are the support that permits, favors and amplifies (through the compressing of time & space and through the manifestation of the “butterfly effect”) the importance of both: (1) reactions to the strategic signals of the environment (even if they are weak and indefinite, on one hand, and apparently not relevant for a given domain, on the other hand) and (2) anticipating the changes and assuming them through consciously assumed strategies;
 - *education* – on one hand, this component reunites: primary formation, perfecting, specialization, training, coaching, qualification, re-qualification and multi-qualification, etc; on the other hand, it benefits from the permanent support and collaboration, as well as from the results of the first two components mentioned above (R-D-I and ICT); in time, education can leads finally to a major change not only

regarding the behavior, but also regarding the attitude and, most of all, the value systems of the individuals which are linked to the new requirements of speed and competitiveness into a global world;

- *institutions / rules* – we talk here about the rules taken by the governmental institutions – rules which stimulates or, on the contrary, make more difficult, businesses / the commercial activities – in the context of the progresses emphasized on the above mentioned components; as concerning the knowledge level, all these information allow comparisons regarding the business climate and the good practice methods, in order to identify the domains where progresses could be made.

If we agree that ***the major challenge*** – for individuals, firms and countries, as well – was until now ***to ensure global competitiveness***, into the new circumstances of the knowledge-based society this seems to be an even harder to get / reach objective for the entities which have not reached yet a minimal level of measurable performances on the defining coordinates of the knowledge society. The conclusion – not only logical, but also necessary – is that ***any strategy aiming the transition to the knowledge-based society*** must integrate a series of well defining and indispensable elements. ***The measure of its efficiency and effectiveness*** will be given by its ability to ensure ***a sustainable competitiveness*** in the global economy.

Strongly connected to the process of transition to the knowledge-based society, the process of ***research-development-innovation***, which is favored and amplified with the help of the ***information and communication technologies***, gets a ***double valence***: on one hand, the process of continuous ***looking for the occasions*** – supposed by innovation and realized with the help of everything that the research-development investments reunite – has lead to the expanding of its reference area to the level of the global environment; on the other hand, once this environment has already been drawn, it had have massive contribution to the ***finding*** of more and more opportunities to be valorized.

Of course, these relationships are simply deterministic ones (cause – effect type) only if we look at them globally. That's because, if we move the level of the analyzing process to the organizational one – of any kind (no matter of what type: school / university, research institute or firm) – where the innovation really occurs, it could confront itself with many problems. These problems will possible deny “the theory” that we have just enounced, because the expanding of the traditional business environment framework could bring with it some new (financial, logistic or time related) restrictions and inconvenient, which would determine either the impossibility / or the delay of the access to an (innovation generating) opportunity, either the not convenient valorizing of the opportunity. The result will be loosing the “investment” character of the research-development spending.

Because ***scientific research and innovation*** represent essential *instruments in leveraging the economic development level* of any country, and because they massively influence the way firms within a country are adapted to the changes that

take place globally (see Rațiu-Suciu, I., Plumb, I., Mincu, C., 1996), the innovation process seems to be the only hope in order to ensure the speed velocity of the technological changes taking place globally into the production processes. In order to do this, all the organizations must place themselves within the value chain of innovation – which facilitates the creation of new jobs, new products and services, and establishes the bases for welfare rising – in a context where the whole national economy must be prepared to stimulate the creative activity, and the economic changes / trades must regard not only products and services, but also new ideas, new results of the innovative activity.

If we move down – from the theoretical level to the concrete / real **regional level** – and particularly to the **European Union (EU) supra-structure level** – we can find the best expression of all the transformations mentioned above into the formulation of the objective EU assumed for the decade 2000-2010. So, the EU has defined for itself – through the Lisbon Strategy first developed in 2000, and re-confirmed after that, through the revising of the Lisbon Strategy in 2004, as a result of the Kok Report – as **major strategic goal** to become **the most competitive and dynamic knowledge-based economy in the world** (in strong relationship to the threats which have come and EU experienced from the two other poles of economic power in the global world – America and Asia), **capable of sustainable economic growth with more and better jobs and greater social cohesion** (see Priinits, M., 2003).

According to the strategy established by the Lisbon European Council in 2000, it was recognized the **essential role of the scientific research and technological development into the growing of the economic competitiveness**, with the following main consequences at the level of the EU research-development-innovation policy:

- fixing a target of *minimum 3% of GDP – total spending on research-development until 2010* – the “3% goal” established at the Barcelona European Council in 2002 – by which minimum 2% from the private sector;
- beginning the implementation of the *Action plan for reaching the 3% goal*, adopted by the European Commission in April 2003;
- promoting *science and technology as key instruments* for the European future;
- starting the *monitoring of the industry research* within European area: annual revised rankings by firm investment in research & development (first 500 firms / EU, first 20 firms / country).

But unfortunately, as the Kok Report emphasized in 2004 without no doubt, the main objective / goal established in Lisbon in 2000 has proved to be much more ambitious (even if, strictly referring at numbers, when we talk about the global competitiveness index – calculated each year by the World Economic Forum, we can see that, from the “Top 10 countries”, most of them belong to the European area).

A whole series of reports made by the European Commission or by independent experts have shown that the global performances registered by the EU countries after year 2000 are disappointing; the effect of these reports was **the revising and re-launch** of the Lisbon Strategy in 2005 – adopted by the UE Commission, by which were offered guidance lines of politics for the member states.

The main objective of the strategy remained unchanged: the better functioning of the member states' economies in order to ensure a more pronounced economic growth and more and better jobs. The **main accents** will be on: **better education** – and by this on consolidating the human capital; **developing innovation** – and creating better connections between research-development and businesses; improving the functioning of the unique market – for products, services and finance.

Despite all its drawbacks, we can say that the Lisbon Agenda is the most ambitious project for the European modernization, because the **essence of this strategy** consists in **modifying the vision about the real engines of the European model of economic growth**. It makes the transition from emphasizing the physical capital to the growing importance of the investment in human capital and research-development. The strategy is searching / aiming for the growth of the public and private expenses made for the research-development activities, which represent the focus element of the effort to amplify creation and dissemination of the scientific, technological and intellectual capital. It also envisages ensuring a better environmental climate for businesses and firms, and a better flexibility for the working force in order to get a harmonious development within the EU (see Dinu, M., Socol, C., 2006).

The **European Innovation Scoreboard (EIS)** is the yearly based determined instrument that was developed at European level in order to **evaluate and compare the innovative performances** according to the requirements of the Lisbon Strategy. Based on their Summary Innovative Index (SII) score and the growth rate of the SII, the European countries can be divided in four groups (see *European Innovation Scoreboard 2005. Comparative Analysis of Innovation Performance*, European Trend Chart on Innovation):

- “*Leading countries*” – Switzerland, Finland, Sweden, Denmark and Germany;
- “*Average performance*” countries – France, Luxembourg, Ireland, United Kingdom, Netherlands, Belgium, Austria, Norway, Italy and Iceland;
- “*Catching up*” countries – Slovenia, Hungary, Portugal, Czech Republic, Lithuania, Latvia, Greece, Cyprus and Malta;
- “*Losing ground*” countries – Estonia, Spain, Bulgaria, Poland, Slovakia, Romania and Turkey.

In conclusion, **the research-development investment and innovation** – developed both of them, at a globally competitive level – represent mandatory conditions for Europe in order to progress. This fact is well recognized by the revised Lisbon Agenda, which: (1) emphasizes *knowledge and innovation as basic vectors for economic growth* and (2) promotes the “*3% goal*” for research-development expenses as the main pillar of the strategy. This is a **direct investment in value creation** and a necessary, but not sufficient condition for an innovative Europe. Basically, each national program which integrates the above mentioned strategy recognizes R&D to be the main priority; half of them have established goals in terms of investments with research-development guided by the 3% goal which was fixed at Barcelona (see *Creating an innovative Europe*, Report of the *Independent Expert Group on Research*

& *Development and Innovation* appointed following the Hampton Court Summit and chaired by Mr. Esko Aho, 2005).

Talking about **Romania**, we must say that **leveraging the economic competitiveness** is the key-factor in determining the economic growth and ensuring the competitiveness into the global environment. More than that, the development of the competitive economic advantages must be a continuous / constant process, which has to take into account the European trends, but also the globalization process, in its whole. That is the reason why **increasing competitiveness** should be seen like a **process of building an economic structure based on capital investments and on research-development-innovation processes**, not like a process of exploiting the short time advantages. In another words, the articulation of a medium and long term convergence perspective must be looking for the development of a knowledge-based economy (see *Planul Național de Dezvoltare 2007-2013*, Guvernul României).

Starting from the premise that **successfully economic development** represents a **process of continuous improvement**, we easily observe that, as the countries develop, they also progress in terms of: (1) the main determinant of the competitive advantage and (2) the type of competition taking place (and so we can talk about factor-driven, investment-driven and innovation-driven economies). By this point of view, the following situations are **characteristic / defining** for **Romania** (see Dăianu, D., *Romania and the Lisbon Agenda*, GEA, București, 2005):

- most of the domestic firms produce goods or services designed in other, more-advanced countries. Technology is assimilated through imports, foreign direct investments and imitation. Firms have limited roles in the value chain, focusing on assembly, labor intensive manufacturing, and resource extraction – these situations characterize a **factor-driven economy**;
- however, there is also a part of the economy, which may be considered **investment-driven**. The last couple of years have brought new investment in efficient infrastructure and policy measures aimed at creating a business-friendly administration. The products and services become more sophisticated. Technology is accessed through licensing, joint ventures, FDI and imitation;
- at the same time, embryos of an **innovation-driven economy** have developed, especially in the Information and Communication Technology (ICT) sector, which has a high competitive potential.

So, in most of the cases Romania has competitive advantage only because of the lower costs; but, it cannot hope to continue to operate forever based only on the fact that Romania is “cheap” – anytime and for anything that will be a country which is cheaper. But, **how can Romania be competitive within the EU**, when for most of the firms in Romania EU rules / norms represent just other costs – either if we talk about environmental protection, consumer security, products health or legal harmonization? This is a major challenge, and the long term future of the country will depend on it, as well as the place Romania will take into the global competitive environment of the future.

Among the most important **problems** the **research-development-innovation domain** (as determinant of the sustainable national competitiveness) is confronted with – as they have been identified by the Romanian government at the end of year 2004, we can reveal (see *Planul Național de Dezvoltare 2007-2013*, Chapter “Cresterea competitivitatii economice și dezvoltarea economiei bazate pe cunoaștere”, *Strategia de dezvoltare pentru domeniul: Cercetare științifică, dezvoltare tehnologică, inovare, Dezbatere MEEdC – Cercetare / 11 noiembrie 2004*):

- poor involvement of the firms in research-development-innovation activities;
- little capacity of absorption the research results by the firms;
- insufficient development and little viability of the infrastructure and technologic & innovation transfer services;
- research-development infrastructure which is technologically obsolete;
- little number of specialists & elder of their average age;
- reduced collaborative and integrative capacity regarding science & technology at European and global level.

The attempts that were made in order to identify a strategy and to develop a **strategic plan regarding EU integration of Romania** led to a series of answers belonging to the sphere of *public management* – especially the Romanian Government, which elaborated and published *The Government Program* as well as *The National Development Plan 2007-2013* or *The Strategic National Framework Romania 2007-2013* by taking into account the requirements of the Lisbon Strategy and Agenda – and of the *civil society* as well – see, for example, the numerous reports written by the Group of Applied Economy, coordinated by D. Daianu, *Romania and Lisbon Agenda*, or the Romanian authors M. Dinu and C. Socol study named *România în Uniunea Europeană. Potențialul de convergență. O schiță a ieșirii din periferie*. (Romania within the EU. The potential for convergence. Drawing a map to leave the periphery).

By the content of the **National Development Plan 2007-2013** we can emphasize that, although it made some substantial progresses in the last few years, Romania still has to confront with some **major competitiveness gaps comparative with western and central European countries**; we can find the reasons for this leaving behind by the level of each elements which determine competitiveness. All of them can be translated into a **low level of labor productivity** – which defines the competitiveness problem in Romania. As a result, the General Objective of the number 1 Priority of the National Development Plan 2007-2013 – **Growing the economic competitiveness and developing of the knowledge-based economy** – is to raise the productivity of the Romanian firms in order to reduce the gaps comparative to the average productivity in EU. The idea is to generate an average productivity growth of about 5,5% per year until 2015 – which will allow Romania to reach a level of approximate 55% from the EU average. The **specific objectives** that will make possible the general objective mentioned above envisage:

- growing the SME-s contribution to the GDP with 20% until 2015;

- raising the value of research-development total expenditure up to 3% of the GDP until 2015;
- expanding number of the Internet users – firms / individuals – from 52% / 19% in 2003 to 70% / 55% in 2015;
- reducing intensity of the primary power intensity with 40% until 2015, comparative with 2001.

The **recommendations** made / suggested by **the academic and business environment** in order for Romania to rapidly adapt to the requirements of the Lisbon Strategy refer to (see Dinu, M., Socol, C., 2006):

- stimulating the long life learning activities of the working force → qualified workers → growing appealing of the region for the other firms → new qualified workers;
- attracting the conceptualizing activities (research-development, design, etc.) of western firms in Romania, not only of the commercial related activities (distribution, marketing, etc), because the first ones imply innovation, creativity, high levels of salary, positive technological externalities, etc;
- promoting a powerful flow of brain storming, through creation of some innovative environments, entrepreneurial spirit, improving the economic stimulants;
- adopting of some measures in order to relax the constraints determined by the small number of the specialized domains induces by the controlled adhesion to the EU;
- forcing the high technology imports → intensifying innovation activities → growing profits → growing value added on exports;
- fiscal facilities to the firms investing in research-development;
- creating universities – research-development institutes – business incubator partnerships.

In **conclusion**, as a World Bank Institute report putted it (see *Building Knowledge Economies. Advanced strategies for development*, World Bank Institute, 2007): **(1)** Knowledge and innovation have played a crucial role in development from the beginnings of human history. But with globalization and the technological revolution of the last few decades, **knowledge** has clearly become **the key driver of competitiveness** and is now **profoundly reshaping the patterns of the world's economic growth and activity**. Both developed and developing countries should therefore think, with some urgency, about their future under a knowledge economy (KE) heading. **(2)** To become **successful knowledge economies**, countries have to **rethink and act simultaneously** on their **education base, their innovation systems, and their information and communication technology infrastructure**, while also **building a high-quality economic and institutional regime**. Policies for these four pillars have to reflect the country's level of development and will often have to be gradual. However, experience shows that some successful KE champions have been able to achieve spectacular leaps forward within a decade. **(3)** Many if not most of the

countries that have made rapid progress have staged **nationwide KE-inspired programs of change**. Such programs have been **pragmatic and country-specific**, yet some common points emerge: the need to promote trust and societal cohesion around the KE program; the need to work at the four pillars through a combination of top-down reforms and bottom-up initiatives; and the need for a well-communicated KE vision.

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