

THE MANAGEMENT OF SCIENTIFIC RESEARCH AND ITS PLACE IN THE UNIVERSITY ACTIVITY

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Abstract

In the last two decades, the research in general and in particular the universities research has gained a special importance. The competition for the resources and in particular for the human resources, the higher education transformations in recent years which have adapted to the globalization have increased the importance of the research from the universities

The view that a university of a global relevance is one that makes the intense research representing the traction force of the economy and society is more fully supported. For this reason a policy of any state to encourage and support the development of research in the universities is a prerequisite for the development of any nation.

If the research has its well defined role and place in the economic and social plan, the research of excellence is for many institutions a desirable goal, a goal for which there are required the mobilized significant financial resources and especially the highly qualified human resources, well organized and complete directed.

Keywords: research, excellence, university, human resources, higher education, Lisbon Strategy

JEL Classification: I2, I21, I28

1. Introduction

We go through a period in which the European higher education is engaged in the most comprehensive and significant reform process which is started by the 'Bologna Declaration' of the education ministers of the European countries. The primary objective of this process without precedent in history is the improvement of graduate education, of excellence in the scientific research, in the spirit of performance and global competitiveness. The New Europe is committed to building a knowledge-based society and economy, where the education and the scientific research have a primordial role, and the universities have an active contribution. A strong company needs the strong universities. To achieve this goal, the education ministers from the countries participating in the 'Bologna Process', effectively and continuously supported by the European Commission, the European University Association (EUA) and the governments of these countries were firmly committed to creating a European Higher Education Area (EHEA), based on university autonomy, academic freedom, the equal opportunities and democratic principles, to facilitate mobility, increasing employment, to enhance competitiveness, to foster creativity and innovation, to develop consistency and comparability of educational systems to promote student-centered learning, to create learning culture (Monacciani 2010).

As a natural extension, in April 2007, the European Commission presented its ideas on creating a European Research Area (ERA), a concept launched in Lisbon since 2000, a space that is estimated to hold the greatest potential of knowledge of Europe.

2. The excellence research in the higher education

We agree with the view expressed by Harvey L., that the excellence is defined as being that institution in which an entity meets a number of features at a very high level, therefore, cannot be achieved by any entity (Harvey 2004, 9).

Reuben Brent (Brent 2007) from Rutgers University, proposes the following framework for achieving excellence in the higher education (Figure 1)

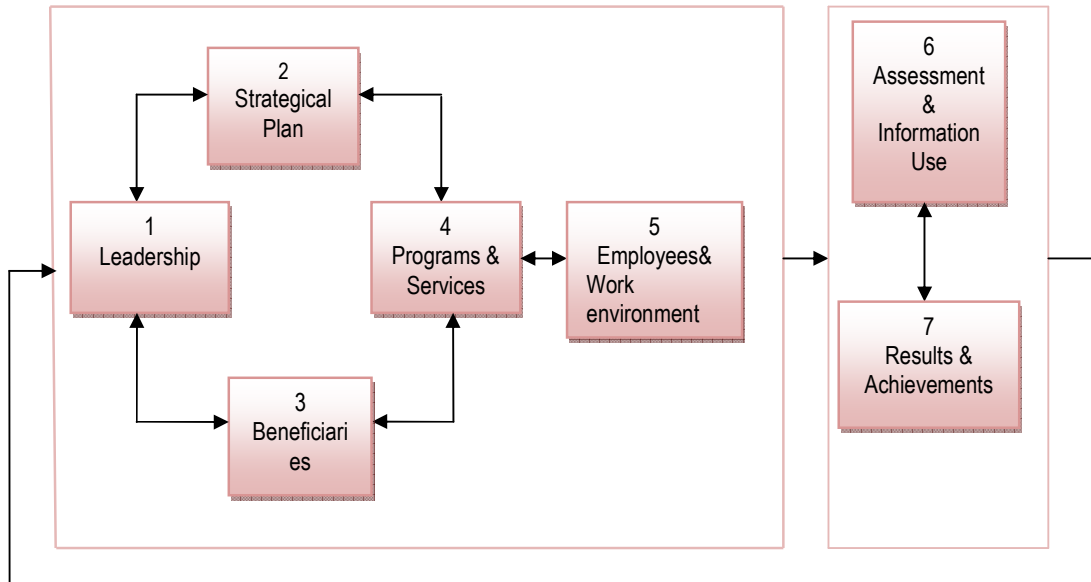


Figure 1. Proposal for a framework for achieving excellence

Source: Adapted from Brent (2007, 4).

Ruben’s model is based on the certain essential elements of excellence:

- leadership - defining, communicating and shaping the vision and values to which the organization aspires, including the focusing on the needs of beneficiaries and of the community in general;
- strategic planning – it translates the aspirations into plans with the clear objectives and monitors their implementation;
- beneficiaries – it listens and understands the needs and the perspectives of the group of beneficiaries that it serves, developing an ethics service to the organization level, it identifies and corrects the potential errors.
- programs and Services – it identifies, analyses, standardizes and continuously improves the quality and the efficiency of programs, services and associated processes to ensure the highest standards;
- employees and work environment – it creates a culture that encourages excellence, performance, involvement, professional development, loyalty and pride to be part of that organization; it rewards and recognizes the performance and synchronizes with the individuals’ objectives with the objectives of the organization;
- evaluating and using information – it assesses the quality and the effectiveness of programs and services which are essential to the mission and to the other areas of the organization; it effectively shares information, knowledge and expertise within the organization and outside it;
- results and achievements – it gathers the necessary information to assess the progress and results and it uses the information to guide the daily decisions and improvements. It compares their achievements and results with the other similar institutions, competitors and leaders from the same field, and it communicates the results and the achievements to many receivers.

Indicators, depending on which one can evaluate the excellence, are the author’s vision, the following:

Table 1. Indicators for assessing the excellence in the higher education

<p>Key processes Effectiveness Efficiency cyclical Cost reduction</p> <p>Foreign Relations Students Industry Administration Collaborators/Partners Suppliers/Dealers potential students</p> <p>Satisfaction Experience change Contributions to the local community and to the national level</p>	<p>Support Activities IT Services Adequate support services downtime response time Users' satisfaction Financing Operational costs</p> <p>Human Resources Services Information Fluidity Response time Users' satisfaction Technology use</p>	<p>Satisfaction to the place of employment Degree of attraction Degree of fluctuation/retention Compensations system Climate work environment</p> <p>Professional Development Courses/offered Programs Students' satisfaction degree Needs Learning outcomes Adequate support services</p> <p>Financial aspects Financing level Incomes Operational costs</p>
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Source: Adapted from Brent (2007, 6).

The universities play a key role in the training of the young researchers, through doctoral, three educational cycles, and their main role is to make the scientific research in high-risk areas and to contribute to the knowledge development. The public investment in research – development is essential for the formation of the human capital, for creating the public-private partnerships and strengthening the research infrastructure.

Across the EU, the research institutions must be viewed from a holistic perspective, namely in the economic and social context in which it performs; the research institutions (including the universities) should be able to interact constantly with the business field and engage in the durable public-private partnerships. Such partnerships should be at the center of specialized ‘clusters’¹, being widely interdisciplinary, to attract a critical mass of human and financial resources from all over the world.

The Commission supports the extension of these clusters through the virtual integration, rather than the geographic concentration.

According to the report of the European Commission (EC 2005 - Mobilising the brainpower of Europe: Enabling universities to make full Their Contribution to the Lisbon strategy, 2005)², Europe has too few centres of excellence, and the universities are not encouraged to promote the specific added value that they made in the society.

Although the Commission underlines the absence of diversity, however, it recognizes the limitations of this: ‘European higher education system must remain diverse in terms of linguistic, cultural, systemic perspective and traditions. At the same time, it requires a compatibility of the various national regulations to avoid excessive confusion in the system, rather than creating the real opportunities of choice and mobility for its citizens’ (Huisman, van Vught 2009). Thus, the institutional diversity is supported at the Community level, as it does not reduce the degree of convergence which regards the fragmentation diminution of the education system of higher education

¹ In 1990 Professor Michael Porter, from who the term ‘cluster’ became popular, and who invented it, defines ‘cluster’ as geographical focus of interconnected companies and institutions in a particular field.

² http://ec.europa.eu/education/policies/2010/doc/comuniv2005_en.pdf accessed on 05.04.2011 In 1990 Professor Michael Porter, from who the term ‘cluster’ became popular and who invented it, defines a ‘cluster’ as geographical focus of interconnected companies and institutions in a particular field. <http://ec.europa.eu/education/policies/2010/doc/comuniv2005en.pdf> accessed on 05.04.2011.

in Europe. According to the principle of 'unity in diversity', the diversity and the harmonization seem to remain two key goals of the European system, these goals that are difficultly translated into reality.

In view of the EU, the European higher education system is too traditional, too egalitarian, too devoid of orientation towards excellence. Moreover, this system is too fragmented in the small and medium sub-systems with the national legislation, too isolated of industry, too dependent on public sources of funding, inefficient, inflexible, affected by the excessive regulation and underfinanced.

3. The excellence as a distinctive feature of the doctoral training

The excellence is not a destination, but a continuous way, which can always be improved.

The excellence universities are almost universally defined in literature as the research universities (Hazelkorn 2008, Mohrman, Ma and Baker 2008, Atlbach 2003). In this context, the organization of the research schools, as centres of development of the human resources for the research excellence, is extremely important

The Doctoral Training is very fragmented in Europe, which counts over 1,000 universities conferring the doctoral degree certificates.

Furthermore, although the number of doctoral graduates in Europe is much more than that of the persons who have the doctoral degree certificate in the US, the percentage of researchers in the active force of working is much lower in Europe than in the US and Japan. In the US, four of five researcher's works in the industry, but in the EU only one from two do so. The vast majority of doctoral graduates in Europe are employed in academia, where the conditions, both in terms of conditions and salary research, often do not meet the expectations for the peak performance.

Since the organization of the doctoral and research training in Europe is very fragmented, the energy and the funds disperse, so their impact is small compared to the US. If Europe wants to remain internationally competitive in a knowledge-based economy, the high level research and the doctoral training must become focused and targeted. From this perspective, and taking into account the rising costs of high-level research infrastructure, the cooperation between the institutions may create more favourable opportunities for the doctoral programs through the initiatives as network.

Also, in a more diversified system, the consortia and the networks which are based on the proximity, being geographical or thematic - can strengthen the research and the knowledge transfer at the regional, national and international level. The interregional and international connections and cooperation's have grown rapidly in the recent decades, as part of the growing influence that the greater European integration process has on the institutions of higher education.

To ensure the European doctoral training at the highest level, LERU makes a series of recommendations on three levels: European, national, institutional.

At European level:

- the recognition of the specificity of doctoral training, which is basically linked to the research process, compared with the first and second cycle in the Bologna process;
- the use of excellence, both of candidates and 'history' of research of the host institution, as primary criterion for the financing for the doctoral programs of research;
- the decisions at the European level should not over-regulate the doctoral training, but its attempt to achieve the comparability of this. There is not indicated a European system of doctoral , and the definitions of the study fields, in terms of duration, organizational structure and criteria for admission should be left to the individual institutions;
- the support of a cooperation and of a international mobility which are better in the doctoral training programs at European level;
- the promote and the support of dialogue, interaction and exchange of researchers between the universities and the business environment.

At national / government level:

- the integration of quality assurance for the process of doctoral training in the regular evaluation exercise of the institutions granting the doctoral degree certificates. The insurance of the quality should be based on the quality of coordination, the high percentage of successful completion of the PhD and a reasonable time of their discharge. They are actually the key parameters for the successful doctoral program rather than a bureaucratic monitoring;
- to ensure that the terms and the conditions for PhD students are generally attractive and the general offer of doctoral training are congruent with the established goals by the Lisbon agenda;

- the removing of the obstacles from the way of the mobility, such as the difficult procedures of conferring the visa, as the strict definitions of areas of studies or the insufficient funds;
- where it contributes to the work and researcher's development, the portability of EU grants for doctoral students should be allowed;
- the admission of the excellent candidates, with the research potential, the desire for knowledge and the constant support of their talents in a stimulant environment of research;
- the strengthen of the networking between the research activities to ensure that the doctoral training takes place in a strong research environment;
- the implementation of principles of the standards management and of the academia quality in the doctoral training;
- facilitating dialogue, interaction and exchange with the business environment and the industry;
- the promotion of the value of doctoral training to the public and private employers and to the community at large, and the vital role of Ph.D. graduates in the development of a knowledge-based society.

Regarding the current concerns for supporting the mobility of researchers at the European and world level, it should be noted that for countries like Romania the maintaining in the country of the elite researchers remains a major challenge. Unlike richer countries, Romania cannot count on attracting in a massive way the research forces which are formed outside. As long as a valuable human potential can not be held in Romanian universities and research institutions, it is anticipated in a difficult way the fact that the preconized measures should have the desired results. There is imposed the focusing of the research in some centres, taking into account the factors such as tradition, the existence of cores of performing researchers, infrastructure and international contacts.

One of the most important strategic projects for Romanian Higher Education is the Doctorate in Schools of Excellence (DSE). The project aims to test and implement an evaluation methodology to ensure international evaluation of the research quality in the universities, the supporting of the schools of excellence and the increasing of the capacity of scientific publishing at the institutional and individual level, with the impact on the quality of doctoral programs.

The evolution of the higher education system in Romania highlights the important progress in many areas of science, there are at present in Romania, the groups of researchers, the laboratories and the research competitive centres at European level. This can be highlighted through the results which are obtained by the researchers in the capitalization of the results and, in particular, by increasing significantly the number of scientific articles which are published in the journals with high impact factor.

The accumulations in time, since 1997, have led to increase the material base for the research in the universities, there are at present in many institutions the university programs to support the research and organization infrastructure in the knowledge clusters, so that an increasing number of more research teams to become competitive.

During 2001-2006, the National Council of University Research (NURC) has developed the identification, assessment and recognition process of the scientific research centres, resulting 38 centres which were recognized for excellence in all the scientific fields.

NURC initiative aimed at the research organization in the centres with the potential to become the centres of excellence, thus identifying, on the one hand, the collectives of researchers, on the other hand, the research infrastructure and the institutional framework for obtain the performance in the scientific research. Thus, these centres have been identified, recognized as centres of research with the real potential to become the excellence centres. It was a first stage of assessment of the research in the Romanian universities.

The second stage referred to the assessment of the research quality and at the allocation of financial resources to support the research performance, the indicator IC6³ being a 2nd item that allows an assessment of research performances in the universities.

Since 2009, through the doctorate project in the Schools of Excellence, started to assess the research in Romanian universities in the fields of science. Such an evaluation will reveal the

³ IC6 indicator is designed to evaluate the quality of the activity of scientific research in the universities in 2008, being one of the indicators taken into account in determining the basic financing of the state universities for 2009.

performing clusters of knowledge and we hope an adequate supporting of these for being competitive at the European level.

During this process there has been redesigned the evaluation system of the research centres, the emphasis is only on those centres that have proven the performances and the viability as future centres of excellence. The assessment was achieved by using peer-review system (peer review), there is also proposed an assessment of foreign experts, without excluding the performing experts from Romania.

4. The universities of world relevance

In the definition of the peak performance of the universities can be seen highlighting the concept of 'excellence, closely linked to the WCU' World Class University'. We subscribe to the view which is expressed by Hazelkorn under which the research universities are the universities which have as priorities in the development the creation of high-level knowledge, the involvement in the social and economic life through this and which attaches a great importance to increase the research role, inclusively the development of the doctorates (Hazelkorn 2008, 193-216).

World Class University and the excellence concept appeared in the last years in the public debate concerning the higher education policies.

Philip Altbach (Altbach 2003, 5-9) has defined since 2003, the meaning of the concept of World-Class University. Writer's opinion, the term WCU is closely linked to stimulation of the knowledge at the highest level (so-called 'frontier research').

This, however, recognizes the author, it cannot be achieved only through the research activity, but also by the creation of the conditions which assure this type of activity.

Between these there are illustrated:

- the assurance of a environment and of the conditions for attracting and retaining the academic staff of the highest quality;
- a policy to encourage the innovation and the exceptional research, the adequate infrastructure (from the physical infrastructure to the libraries and the data access)
- a governance to ensure the control of the academic staff and students, to a certain extent, the essential decisions regarding the organization of the university;
- the diversified and sufficient financing which allows the performance of the activities as a high standard;
- the academic freedom and an atmosphere that encourages the intellectual emulation are the elements that, in the author's opinion, are central to defining a university of world relevance.

We see the complementary points of view which are expressed by Mohrman, Ma and Baker which do not contradict the basic idea of the analysis, in terms of excellence in the universities. They preferred the term somewhat similar, but perhaps elitist, of *university of research* (Mohrman, Ma and Baker 2008, 5-27)

The authors identify an emerging model of university, elite, which has a strong orientation towards the research and its mission is aimed at creating the valuable knowledge. The authors identified eight characteristics of this model which are closer to the definition of a university of world relevance:

- the mission which is oriented towards the research to extend the frontiers of worldwide knowledge;
- there are the universities of intensive research (research-intensive universities)
- the role of the academic staff orientates more towards the integration in the transdisciplinary and global teams, the teams which are concerned to meet the needs of the real world;
- the financing of these universities is diverse, in order to support the costs of performance, they are translated, in addition to the public financing and the fees, the private financing, the grants of research and the business activities (spin-off);
- a social and economic role of the university is to collaborate with the business environment and the government to solve the problems of the society;
- the recruitment of staff and students is international (academic head-hunting)⁴

⁴ Head-hunting is a relatively new concept in the local market of recruitment and of consultancy, being known as 'executive research'. According to George Butunoiu, there are two slightly different views of this notion. There are people who consider only the head-hunting only as informal activity of the 'executive search',

- the adaptation of infrastructure, academic programs and research centres for the interdisciplinary studies
- the active participation in the creation of policies and international instruments for governing the academic community.

In the definition of an university of excellence at the world level, Jamil Salmi, World Bank Coordinator for the Higher Education, proposed a model based on three key factors (Salmi 2009, 32): the concentration of talents, the abundant resources and adequate governance.

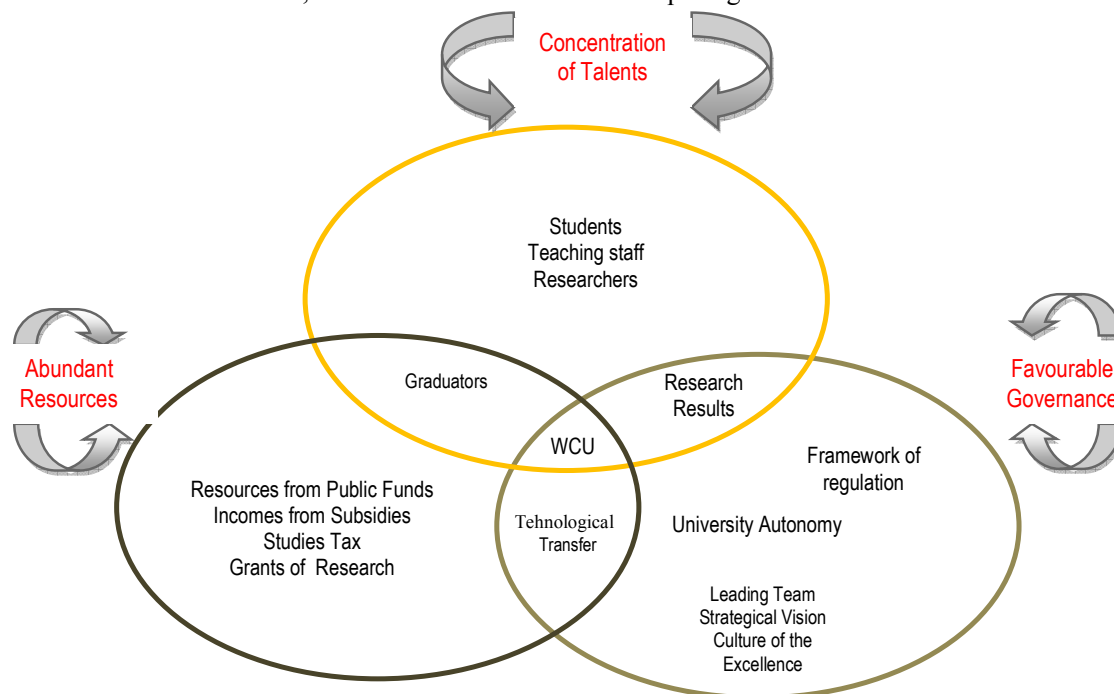


Figure 2 Model of Excellence

Source: Salmi (2009, 32).

Salmi analyses the development of the university in the world relevance in terms of national policies and institutional strategies. The development of the universities of world relevance without the development of relevant national policies in support of excellence is difficult to be achieved, because – the price of such universities, as noted in the international experience, is huge, in financial and human terms.

The author also notes that the different approaches of the national policies, combined with the specific features of the institutional and political culture of each country, have led to better results which are determined in terms of the development of the universities of world relevance.

China, for instance, is characterized by the massive pumping of funds and by the creation of the necessary infrastructure for the cutting-edge research, but in the author's view, the universities which are supported by the national policies and programs of supporting of the excellence confront with the deficiencies regarding the internationalization, the best students' retention, the free and open academia environment to allow the innovation, the incentive scheme, the deficiencies which led to the good performances, but not to the excellent performances of the universities of Chinese top.

In France, according to the author, the relevance and the international recognition are constrained by the atypical French university system, which consists, on the one hand, the comprehensive universities receiving egalitarian treatment in the French research policy and, on the

and there are the recruiting managers exclusively through the direct approach, and people who see only the head hunting process when hiring a particular person who is designated by the customer.

other hand, the 'Grandes Ecoles'⁵ which are promoted as elite institutions, but which have a strong professional focus, being less research-oriented. Therefore, the institutional solution of France to support the excellence was the development of the new structures, which appeared as investments of the institutions of prestige education and which have the designation to promote the excellence.

In some cases, in the major universities in Latin America, for instance, the author points to self-sufficiency and the approach without international perspective of the universities as that of Sao Paulo which, although it is most important in Brazil, with an impressive number of students is not sufficiently in step with the international research, remaining somewhat isolated, with a tiny percentage of foreign students and teaching staff and modest quotations in the international rankings.

We can say that the excellence supposes vision, strategy, planning, organization, control / correction and is supported by staff and good quality infrastructure and adequate financing. It follows that the university research has a leading role in directing the top research. The mission assumed to the research university supposes a coherent organization of PhD organization, support of researchers, sufficient resources for the development of valuable researches.

However, the excellence of the research in the universities is not always considered identical with the university excellence, especially in the French area, which is tributary to the specific organization of the 'Grands-écoles', although it appears largely that the research at the excellence level involves a superior quality of the educational process, an increased internationalization and a better training of students. An excellence program of research in the Romanian universities will have to take account of these aspects.

An approach which is exclusively oriented to the research and the top performance, which is promoted in the international standards and policies, is an issue that must to be gradated. A first observation is that not all the universities can be internationally relevant; moreover, it is not necessary that all the universities have this mission. The universities can be directed to training very well the students to enter in the labour market, to be involved in the resolution of the problems at the regional or national level, etc.

An example is Germany in this sense. In early 2000, when all the 88 public universities which were funded from the federal funds and the lands budgets were equally treated, including concerning the financing, an analysis of the international rankings concluded that none of the German universities – although in Germany there is a tradition of the research universities – was not in any top of the international hierarchy.

The decision, initially controversial and contested, of the German Government, was to differentiate the universities in terms of performance, potential and mission to create the top performance – In other words, excellence.

In this context Europe is in a position to have to make decisions to maintain and accelerate the frontier research, on the one hand, and to maintain the accessibility to the academic studies.

Also, we must not ignore the dangers in the 'running after the world relevance: one of them is that the universities focus on research and 'hard' sciences (hard sciences), easier to quantify as 'excellent in the international rankings, thus creating large the very big imbalances between the fields, at the system level.

Another danger is the fogging of the elitist sense of the word, in the context of the multiplication of the international rankings (made based on the criteria more or less subjective, under the circumstances more and more universities being entitled, more and less legitimate, as universities of world relevance (Birnbaum 2007, 7-9).

Also, not all universities in the world can reach to be classified in that way, and not all the universities should have this goal.

The choose to be the university of world relevance is primarily a matter of definition in real and realistic terms of the university mission – if it wants to perform to the global level, if he wants a national impact or concentrates more on the regional needs. Also, the support for the universities of excellence requires the significant resources, both financial and human, which can lead to the question

⁵ There is no a standard definition of the Grandes Ecoles. Legislation involving the term Grandes écoles (in French 'high schools' or 'elite schools') generally uses the word 'Classe préparatoire aux Grande Ecoles'. It has, in general, the phrase 'Écoles supérieures' to indicate the higher education institutions which are not universities.

how many excellence universities, can promote a state; an answer can be the higher education system which is stratified after the American model.

5. The European research policies

In recent years, the Community research policies have been felt ever more strongly to the research level of each country. We are thus in a situation of a Europe with a converged research, but still very differentiated, diversified and fragmented.

Regarding the university research, the university research support policies are more heterogeneous, due to the different higher education systems across Europe. However, the convergence which is induced by the policies already implemented by the EU for many years, both in research and higher education system is felt in the university research level on the entire continent, the European research agenda is a landmark in defining the strategies and the intervention lines which are necessary for the support of the university research.

At EU level, the research policy was developed as a concept in the 70s (European Commission 2007, 13); the European research has become a real community dimension once with the E.C. initiatives of the 80s, such as ESPRIT program – the first community program to support the research at the policy level, through the Single European Act, which stressed the importance of the science and the research as the areas of Community responsibility.

In the 90 years, Maastricht Treaty has called into question the importance of the research at European level. With the establishment of the general goals of the Lisbon Strategy, the achievement of a knowledge-based Europe was closely linked to the setting - the ERA, which has become an essential component of the Lisbon Agenda (2000).

The European Council in Barcelona in 2002 gave a strong political signal of support. For the education, the research and for the innovation and goal setting, at the community and national level, of allocation of 3% of GDP for the research, of which two thirds of private funds.

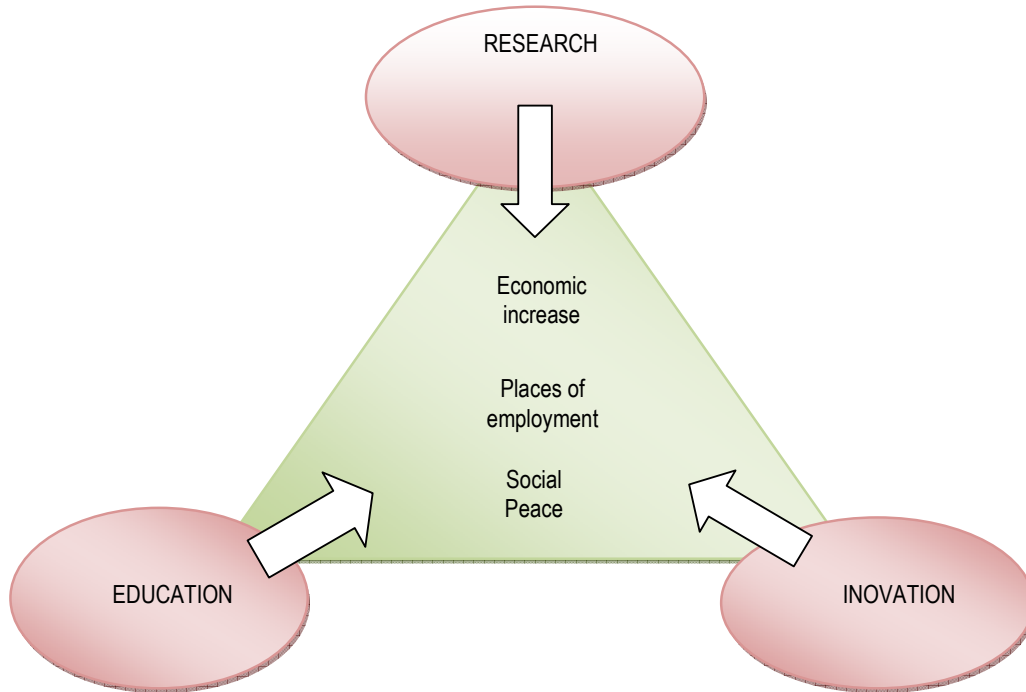


Figure 3. The pillars of the Lisbon Strategy

Source: Adaptation: Paul Jamet, quoted in PNCDI 2007-2013

In the pragmatic document from 2007, *The European Research Area: New Perspectives* {SEC (2007) 412}, the European Commission expresses its vision of ERA, the prospect of entry into the second cycle of implementation of the Lisbon Strategy and sets out the main responses to the fundamental questions about the future of the European research within the timeframe left for the current programming period in 2013. The document also draws attention to the slow pace of research to adapt to the new requirements of the postmodern world, so that Europe can remain and develop as a top of the global knowledge, especially in the context of extraordinary development, in the recent years, of the research environment in the Asian countries and of the continuing US in the tops of the hierarchy.

The Commission document makes clear the existing concern at Community level, in respect of achievement of the goals which are established in the strategy which had as time horizon 2020, and mainly those related to the research development so that Europe can become a leader in the world research (European Comision 2007).

The ERA achievement mainly targets the following goals:

- the creation of a coherent and effective research policy at the European level and the diminution of the weak points in the science and technology field. The Member States have their own policies and structures of research, but at European level this fragmentation leads to the inefficient use of resources. European Research Area, designed as an extensive integrated network of research involves the creation of interactions between the policies regarding research, carried out at EU level and those which are implemented at the national level in the member states;

- an adequate flow of competent researchers. The researchers should be stimulated by a single labour market with the attractive working conditions for both sexes, involving mainly the absence of financial barriers and / or administrative obstacles to the transnational mobility. Academic research stations, and national research programs across Europe should be completely open, with a predominant trend to recruit the researchers at the international level, and with an increased mobility between the disciplines and the public and private sectors – a such mobility becoming a standard characteristic of a successful career in the research;

- the infrastructure of world research / research of global relevance. The main infrastructures should be built and operated jointly at European level. These should be accessible to the teams of researchers from the entire Europe;

- the institutions of excellence research. In the EU, the various and diverse research institutions should be integrated into the social and economic life. They should be able to interact constantly with the business world and to engage in the durable public-private partnerships.

- the effective knowledge sharing. This consists of: open and free access to the public knowledge base; a simple and harmonized regime of the intellectual property rights, including an effective patent system in terms of costs, and the shared principles for the knowledge transfer and the cooperation between the public research and the industry;

- the research programs and the better coordinated priorities. These should include planning, implementation and common evaluation of public research investments at European level regarding the aspects that go beyond the individual capabilities of each country. The common priorities should be identified by common estimations involving scientific community, society and industry, decisions and measures taken jointly. In these and other fields, the programs of national and regional research should offer the certitude that the main principles which govern the applications for the research funds are comparable in the entire Europe, and it assures the highest degree of quality.

- a wide opening of ERA to the world. It is extremely important the participation of regions neighbouring the EU, and the development of the multilateral initiatives to answer to the global challenges with the EU partners.

The specific, horizontal goals:

- the enhance of the excellence research in the areas of public major interest;
- the areas mentioned by the Commission are health, energy and climate changes;
- the stimulation of the competition in the European research for the excellence stimulation, without ignoring the cooperation between the different research structures in Europe;
- the support of the European diversity, through the development of the specific specializations for every region or country of Europe.

The overriding goal in the basic research in EU countries is to increase the knowledge degree, which implies a sustained financing of the universities, which are ‘the locomotives’ of the basic research.

The university research is a much stronger element in the research in Europe, to other key actors of the world (USA, Asian countries). According to the E.C., 36.6% of EU research expenses is concentrated in the universities, which represents more than twice the weight of the same indicator in the US.

The specific goals of the Commission focuses on two levels: the support of the university research, with the other research institutions, and, secondly, the stimulation of the national policies which govern the university research regarding:

- the observance of the university autonomy;
- the financing of the university research in terms of the output from the system (direct results of research, or indirect results, such as international partnerships, the partnerships with the industry)
- the professionalization of the university management and the creation of research management tools;
- the support of the innovation capacity of the university research.

The universities as entities are invited to participate in creating the European Research Council, to accelerate the increase of the weight of the financing of the university research from the European funds from 50% to 75%.

The governments encourage the development of closer relationships between the higher education institutions and the society as its whole. The adopted measures in this area are designed to encourage the scientific achievements and the opportunities arising from these to a greater audience. Another priority is to link the research with the national economy and the social imperatives, including here the specific and regional needs. To this goal, the central authorities are trying to simplify the cadre which regulates the use of the research results and it offers the financial support for the universities for initiating the different forms of partnership.

According to the legal legislation in the countries such as Belgium, Holland, Finland, Sweden and Norway, the cooperation with the society is one of three main tasks of the higher education. Law

University of Denmark says that one of the goals of the university as a central institution of knowledge and as depository of the culture is to work with the society. In Iceland, the official policy is that the universities should be actively engaged in the dissemination of the results of the academia activities and of the technological developments towards the society.

Many governments specifically promote and co-finance the creation of the multilateral partnerships and the consortia between the higher education institutions, the research institutes, the regional authorities and / or the private companies. Moreover, the central authorities in several countries (Estonia, France, Italy, Portugal, Finland and Sweden) continue to provide the financial and other nature incentives to increase the regional cooperation between the higher education institutions, the companies and the local authorities.

We noted however that the results so far indicate that there is a university Europe with the lower performances than the US academia field that may be the effect of the fragmentation of the European academic field, yet unable to concentrate and connect its resources to achieve the top research.

The summary of positive aspects and vulnerabilities which are contained in the European Research Area, as part of the Lisbon Strategy is provided in Table 2.

Table 2. The strong and weak points of the ERA

Strong points	Weak points
The reviving debate about the ERA underlined the urgent need to allocate more European funds for the research	
The European Universities are a central point in building the ERA, having an essential role in the improvement of the economic competitiveness of Europe.	
The universities are a unique field , in which there are developed the interdisciplinary competences which allow the approach of the complex problems from all the fields of the human activities.	
	Innovation will not truly be realized if all its cultural and social aspects are not fully understood and addressed accordingly.
ERA Vision recognizes the universities as key stakeholders in achieving the ERA.	
Recognizing the need for the university autonomy in the management of research mission. The universities with a greater autonomy and a greater attraction which will be up to the expectations contained in the Lisbon agenda regarding the development and the jobs.	
	The under-funding problem is not sufficiently asserted. If until 2015 there are not implemented the measures which are stipulated in the E.C. according to which 3% of GDP should be devoted to the universities and the research, the structural actions proposed in the vision is not likely to be achieved.
	The ERA vision does not give an enough priority to the importance of basic research and the need to strengthen the role and the resources which are available to the ERC (European Research Council) to improve the university excellence in Europe and to enable the universities to recruit and retain the highly-qualified researchers. The research in the universities also needs the financing schemes with the rich resources at the national level, for maintaining and strengthening the

Strong points	Weak points
The reviving debate about the ERA underlined the urgent need to allocate more European funds for the research	
	research capacity in the new and already known areas.
	The ERA vision was not referring to the full financing of the research which was supported by the external agencies as an essential condition for the sustainability of the research mission of the universities.
	We urgently need a link between ERA and EHEA*, especially in terms of mobility of the researchers. There must be obtained a maximum synergy between the Bologna process and the EHEA building and the ERA development.
	The ERA vision was to have closer links with other reforms from the higher education sector which are already in performance, especially since the Bologna process integrated the third cycle of studies, namely the doctorate.
Universities recognize the need to create the research environments where the talented researchers can achieve a balance between the interests of doing the basic research and the development of successful partnerships with the external partners from both public and private sector.	

*EHEA – European Higher Education Area, in Romanian – Spațiul European pentru Învățământul Superior (SEIS) in which the education systems and the certificates are harmonized and which represent the main goal of the Reform of Bologna.

Source: European University Association (EUA), 2010

From the presented aspects in the table, the way in which the universities are involved in the research process and the conditionality's which can stimulate or stop the good performance and the finalization of a top research.

6. Conclusions

The knowledge-based society has as mission the knowledge generation, the dissemination of this knowledge through the education and the training, their diffusion and efficiency through the innovation and the technological development. Moreover, the investments in research, innovation and technological transfer ensure the economic development of the society. To some measure, these goals are achieved by the role played by the higher education, generally, and through the university research, in particular.

The increase of the role of research and development and innovation, in the current context of social development, characterized by high rates of change, fierce competition, globalization and other adverse effects on quality of economic and social life, imposed the development of the scientific and technological potential in the universities and, especially, the improvement of the performances of the university research.

In connection with these requirements, we can talk about the scientific research of excellence. The phrase 'excellence research' was introduced in the last decade, meaning the scientific research with high-performances.

Worldwide, the universities are the important components of the national systems of innovation, research and development and signing up among the factors with a great research potential. The research activity from the institutions of higher education trains primarily the teaching staff, but also

the students, the Ph.D. students and the other categories of staff, whose involvement in the scientific research is governed by the national laws and the internal regulations.

The relevance of the human resource is growing exponentially in a university institution where the affirmation and development engine is the innovation at the spiritual and material level, where the opening of the new fields of investigation, the approach of phenomena and new processes, the formulation of theories and hypotheses, measures and solutions for the needs of the immediate practice become the sine qua non conditions of the performance and of the worthiness.

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The increase of the capacity of the university to gain the knowledge, the results and the experience in the areas of high technological and scientific level and to ensure the transfer and their dissemination to the society to support the social and economic progress; the increasing of the visibility of the scientific research in the universities and of their ability to integrate themselves in the national and international networks and the protection of the scientific and technical values from the university heritage, are just some of the specific goals of the universities regarding the achievement of the excellence in the scientific research.

The practice shows that there cannot be achieved the high levels of performance in the scientific university research without the involvement of the top management, which includes the establishment of the university strategy regarding the scientific research and its implementation.

In Romania, we need to create a climate of excellence, which is not only in the Romanian universities, or, in any case it is less present; we need to create a critical mass of excellence staff and a crisis to shake the Romanian university and cause the reforms of substance.

There is stressed the importance of research and training in the higher education field, the promotion of interdisciplinary in maintaining and improving the quality of this education and in ensuring the competitiveness of European higher education.

It is necessary to apply a policy to support the excellence in the Romanian universities, this policy which should lead to the international visibility and to the genuine creation of knowledge, the economic increase, the social quality.

In this way, a development policy of the excellence in the university research would be congruent with the Research Strategy for 2007-2013 and with the Romania aspirations to be a respected member of the EU.

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