INNOVATION – A EUROPEAN PRIORITY. ROMANIA'S CONDITION

Associate Professor Ph.D. Laura – Filofteia PĂNOIU
"Constantin Brâncoveanu" University of Piteşti, Romania
E-mail: laurapanoiu@yahoo.com

Abstract: *Each country's development is ensured by the presence of some more or less significant entrepreneurs who can successfully cope with the competitive environment they operate in. In today's highly dynamic and increasingly global economy, it is important for an entrepreneur to create competitive advantages not only by working on prices, but also by creating particular elements such as quality or innovation. Innovation is an often debated upon topic at micro- or macroeconomic, national, European or global levels, as supporting the process is a solution for increasing the profitability level of companies and ensuring the sustainable development of economies. Phenomena such as the globalization of markets, increasing competition, increasing the migration phenomenon, increasing unemployment, companies' and also countries' orientation to research and development are elements that have created new conditions for the manifestation of innovation, and also new arguments that generate the increase of amounts allocated to the innovation process. This paper is an exploratory research based on the qualitative method, by consulting various sources of information: specialized literature, case studies, media articles, reports of some related organizations, etc., aiming to highlight the stage of the innovation process in the EU member countries and Romania's role in the innovation process.*

Key words*: innovation, economic development, competitive advantage, research-development.*
JEL Classification: O30, O38.

1. Approaches to Innovation

The current society characterized by the most diverse changes that affect different economic and social fields must find the most suitable solutions that will allow it to stay connected to the global economy. The emergence of new products on the market, the improvement of existing ones via the use of new technologies generate an increase of the interest in innovation. Innovation is manifested in all public or private, economic or social structures. At organizational level, the focus of management is on introducing new management methods, reorganizing or reconfiguring the business so that it can gain competitive advantages, especially when prices cannot act as a comparative advantage. At society level, innovation envisages strategies, policies, concepts that seek to solve social issues.

Innovation, a phenomenon with an important role for current economies through the generality and broad fields where it can operate (Tărăsescu, 2008) targets the ability to assimilate and convert new knowledge in order to improve productivity and to create new products and services (Drăgănescu, 2002). In 1942, economist Joseph Schumpeter approached innovation highlighting its main components: "creating a product, introducing a new manufacturing method, entering a new market" (AGEPI, 2014).

Innovation generates the restructuring of economic sectors or even the emergence of new sectors of activity. Innovation has a variety of roles in a company which can mean (European Commission, 1995):

- renewing and expanding the range of products and services and of those associated with the market;
- setting new production, supply and distribution methods;
- introducing changes in management, work organization and working conditions, and workforce skills.

In 1992, the Organization for Economic Cooperation and Development created the Oslo Manual in a partnership with the European Union and Eurostat, aiming at collecting

data on innovation in a system that offers their comparability. The 2005 edition identified the elements defining innovation in a company, namely:

- product innovation: envisages creating new products or improving existing ones;
- process innovation: refers to introducing new technologies or improving the working methods and equipment;
- marketing innovation: aims at introducing new marketing methods or generating change in the packaging, distribution or promotion of a product;
- organizational innovation: involves introducing new methods of organizing a company's business.

According to Kotsemir and others, the typology of innovation varies from classical forms: product innovation, process innovation, service innovation to new types of innovation where one can find "frugal innovation, red ocean innovation, organic innovation and other numerous – and in many case "very exotic" from the point of view of a strict terminology –types of innovation" (Kotsemir et al., 2013, p.26). The authors also identified other forms of innovation: strong or weak innovation, open or closed innovation, incremental or radical innovation, etc. Popescu M. (2016, p.16) defines incremental innovation as an improvement of existing products and processes in response to the market whereas radical innovation aims at introducing truly new solutions based on inventions.

Irrespective of its ways of manifestation, innovation is a tool that uses different resources to render value by changing their use (Drucker, 2000).

2. European Concerns with Innovation

Edler J. (2013) shows that defining coherent policies regarding innovation requires ensuring an appropriate framework for future generations. This opinion can be used as an argument to support the European Union's attempts to provide a framework to deal with non-Community goods, services and technologies.

Thus, three strategic priorities in the field of innovation have been defined at Union level (European Commission, 2016):

- *Open innovation* - is an initiative meant to involve a large number of players by defining an innovation-friendly regulatory system and supporting innovative enterprises to access the funds needed for their investment. The initiative aims to create products and services that embody the results of the innovation process and also the trading of technologies created by European researchers, as the most important source of innovation is technical and technological development (Bodog et al., 2006).
- *Open science* – aimed at creating computer systems designed to enable the interconnection of scientists. More precisely, the European Commission aims at creating a cloud to connect 1.7 million researchers and 70 million professionals.
- *Openness to the world* - an initiative aimed at developing international cooperation of researchers and innovators in the most diverse fields: from economics to environmental, water, food, diplomacy issues.

Innovation regarded as a process that allows transforming ideas into reality (Antonescu, 2015) is the focus of the Europe 2020 Strategy (Enache and Morozan, 2013).

Europe 2020, a strategy adopted in 2010 for a 10-year horizon (Șerbănică and Puiu, 2016), continues the flagship initiatives of the Lisbon Agenda and defines as priorities: smart, sustainable growth favourable to inclusion. The pilot programmes aimed at achieving the strategic priorities envisage innovation; education; digital society; climate changes, energy and mobility; competitiveness; employment and reduction of poverty. In terms of initiative, ***innovation***, the set target is to allocate 3% of the GDP to R&D

activities. Achieving that target has generated the creation of the "Innovation Union" initiative. Specifically, the initiative aims at performing investment in education, research, development, innovation and ICT; creating strategies to ensure return on investment; adapting the educational system especially higher education to the requirements of modern society by increasing the level of skills and attracting talents; ensuring cooperation among people that work in the fields of research and innovation, better exploiting the EU funds allocated to this segment, reducing barriers for innovative enterprises (European Commission, 2010).

Achieving the priorities defined by the "Innovation Union" initiative has generated the definition at EU level of the Horizon 2020 funding instrument for research and innovation programmes that can provide funding of 80 billion Euros for the period 2014-2020.

The main programmes that provide funding under HORIZON 2020 are:

- Scientific Excellence (24.4 billion Euros) – to fund actions such as border research; actions to strengthen the careers of young researchers or of those with expertise; future and emerging technologies or world-class infrastructure;
- Industry leadership (17 billion Euros) - promoting investment in technologies;
- Societal challenges (29.7 billion Euros) - promoting investment in research and innovation in fields that have a major impact on citizens' lives (e.g. health, food security, energy, etc.);
- Spreading excellence and expanding participation (24.4 billion Euros) – aiming to reduce existing disparities at EU level in the field of innovation by building and properly exploiting the potential of talent reserves;
- Science with and for society;
- Euratom, etc.

All the programmes defined by the "Innovation Union" initiative aim to fund:

- Research and innovation actions;
- Actions aimed at ensuring cooperation and networking within the programmes and projects on research and innovation.

The need to monitor progress in terms of innovation has generated the creation of two instruments: the European Innovation Scoreboard (EIS) and the Regional Innovation Scoreboard (RIS). The EIS seeks to provide a detailed picture of innovation performance reported by member states while the RIS addresses only regional elements focusing on the performance reported by small and medium enterprises.

In the year 2017, the Regional Innovation Scoreboard (RIS) provided a general ranking of innovation leaders: Sweden, Denmark, Finland, the Netherlands, the United Kingdom (European Commission, 2017). The RIS also encompasses innovative regions by fields, namely:

- Denmark - human resources and innovation-friendly environment;
- Luxembourg - attractive and active research systems of an intellectual nature;
- Finland - funding and support;
- Germany – investment of companies;
- Ireland - innovation in SME's and impact on employment;
- Belgium - innovation networks and collaboration;
- United Kingdom - effects on sales.

In order to capture the phenomenon of innovation, EUROSTAT has released information on the share of development related expenditure in the GDP. The data indicate

an average of 2.03% of the GDP allocated for research and development in 2016 in the EU-28, 2.19% for Euro zone countries. The countries with the largest amounts are: Sweden 3.25%, Austria 3.09%; Germany 2.94%; Denmark 2.87%; Belgium 2.49%. (Figure 1)

One can notice the increasing interest shown in the European Union in ensuring the framework, mechanisms and instruments that will generate innovative actions and activities which can ensure a competitive growth of the European economy.

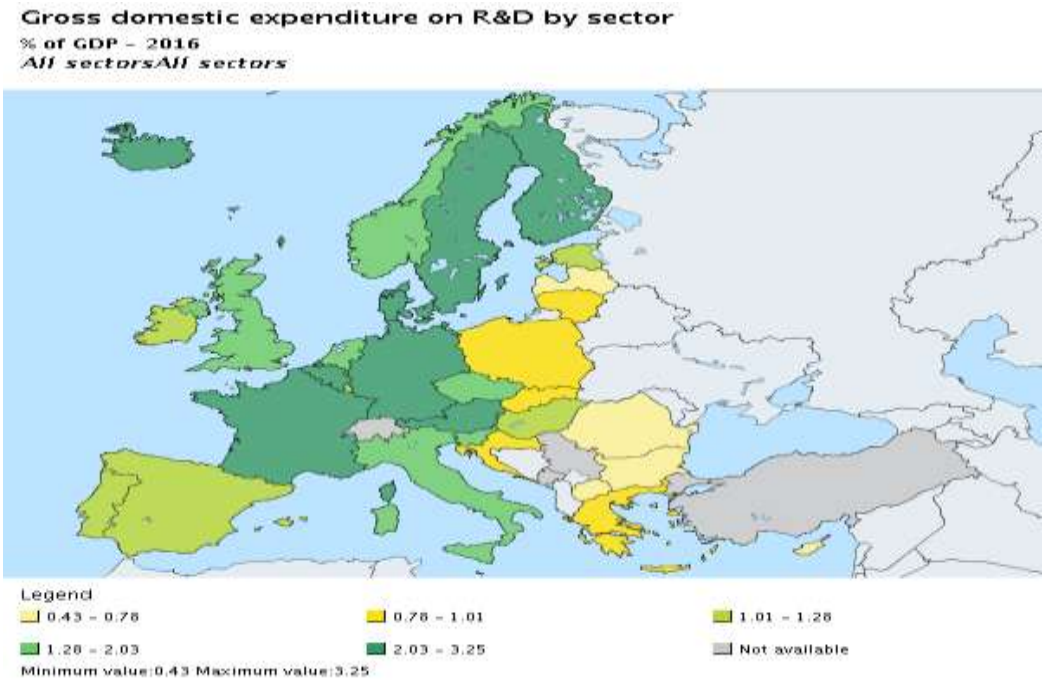

Figure no. 1. Share of Research and Development Expenditure in GDP
Source: http://ec.europa.eu/eurostat/data/database

3. Issues Regarding Innovation in Romania

Innovation in Romania is defined as the creation of a new product, service or process, or one that is significantly improved, including production or construction processes, new marketing methods or new organizational methods in the trading activity, workplace organization or external relations of an organization among others, in order to help address societal challenges or to support the Europe 2020 Strategy for smart, green and inclusive growth.

Also, the National R&D and Innovation Plan for the period 2015-2020 defines innovation as "the implementation of a new or substantially improved product, service or process, or of a new marketing or business method in practical work, in workplace organization or external relations" (Government Decision 583/2015). At the strategic level for the 2014-2020 horizon, the National Strategy for Research, Development and Innovation 2014-2020 has been created aiming to make Romania a competitive economy, its basis being defined by the existence of an innovation system that creates added value.

The strategy has identified three main pillars that aim to achieve the strategic vision: the development of innovative companies, the internationalization of the RDI sector, regional leadership. Strategic targets have also been set to ensure convergence with the EU average (Table no. 1).

Table no. 1. Strategic Targets of Innovation in Romania

Number	Indicator	Target
Public sector		
1.	Public Expenditure on Research and Development (% of GDP)	1%
2.	Number of Ph.D. graduates per 1000 inhabitants aged 25-34	1.5
3.	Number of researchers in the public sector	17,000
4.	Scientific publications in top 10 most cited publications in the world (% of total scientific publications in the country)	7
5.	International scientific co-publications per 1 million inhabitants	300
6.	Risk capital (% of the GDP)	0.09
Encouraging the private sector		
7.	R & D expenditure of the business sector (% of GDP)	1
8.	Number of researchers in the private sector (full-time equivalent)	14,500
9.	Public-private co-publications (number/1 million inhabitants)	16
10.	Innovative SME's collaborating with others (%)	6
11.	EPO patent applications (number/year)	120
12.	USTPO patent applications (number/year)	60
13.	Community trademark applications (number/1 billion GDP adjusted to purchasing power parity)	4
Economic impact economic		
14.	Fast growing innovative companies (number)	150
15.	SME's introducing innovative products or services (%)	20
16.	Revenues from foreign licenses and patents (% of GDP)	0.17

Source: Government Decision no. 929/2014 of 21 October 2014 on the approval of the 2014-2020 National Strategy for Research, Development and Innovation.

The strategy also lays down the authorities responsible for coordinating and linking research/development/innovation policies:

- The Ministry of Research and Innovation defined as the state authority for research and development whose responsibility is to draw up strategic objectives and specific policies;
- The National Council for Science, Technology and Innovation Policy (CNPSTI), a government advisory body that ensures the coordination and correlation of specific policies;
- Advisory bodies;
- Operational bodies.

The strategy and policies defined at national level must be fulfilled and achieved in order to allow Romania to overcome the condition of a low innovation level country as shown in the Community Innovation Scoreboard (Figure no. 2). The score reported by Romania is below the European average in all categories, so that in the year 2016 there is a 14% decrease compared to 2010. The categories that have negative changes are: Innovators, Firm investments, and Finance and support, whereas Innovation-friendly environment, Sales impacts, and Human resources have reported positive but not so high changes to cover declines.

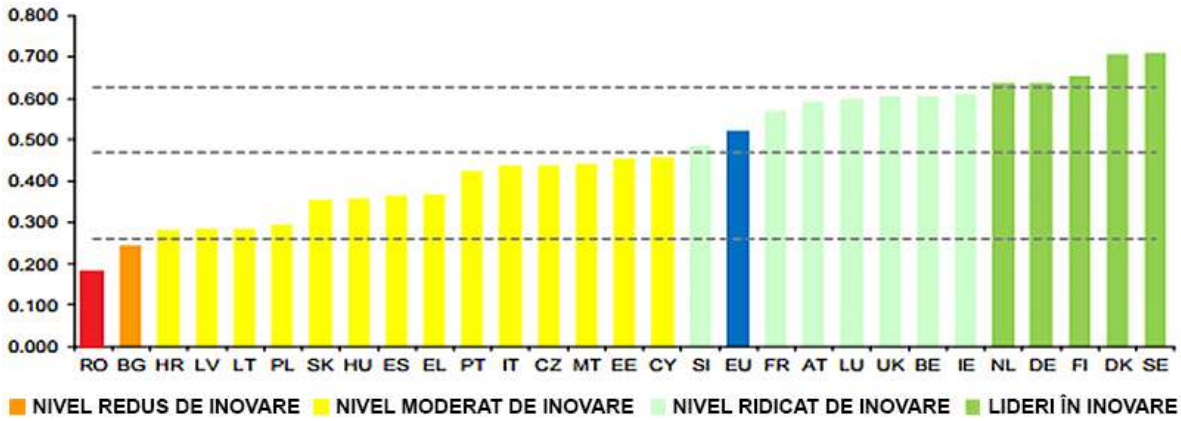

Figure no. 2. Level of Innovation in EU Countries, 2016

Romania should regard innovation as a way to increase the value of indigenous companies and products. Ensuring the funds needed to finance the innovation activity is the main factor in increasing the level of innovation and removing Romania from the category of countries with a low level of innovation.

4. Conclusions

Today, innovation is an element that can give companies the opportunity to increase their performance by creating a competitive advantage, therefore it is necessary to build systems that will generate the proper functioning of the Romanian economy and society.

Ensuring a climate that can enable enterprises to become innovative depends on the implementation of all the strategies and policies defined by Romania in this field. There is also a need for greater visibility of objectives and of funding opportunities for innovation actions.

The paper has aimed to highlight the main European and national objectives regarding innovation, and future research will capture the influence of all factors and elements that define innovation on Romania's economic development.

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