THE INFLUENCE OF KNOWLEDGE AS A COMPONENT OF INTELLECTUAL CAPITAL WITHIN THE GLOBAL BUSINESS CONTEXT

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ABSTRACT: *This paper brings knowledge to the research field of measuring and reporting the value of intellectual capital in various regions of the world. In the center of it we discover knowledge (under multiple forms), which directly leads to intellectual capital. This study could be used by managers in the process of managing their intellectual capital in a better way. Throughout this work we undertake a comparative analysis of main components (pillars) of intellectual capital at organizational level within the member states of the European Union. We focus mainly upon the role of intellectual capital in Romania. The purpose is to emphasize the important role that intellectual capital plays as a source of innovation and renewal that it is used to create competitive advantage for organizations. We show that the value of intellectual capital consists in each individual's mental power, which if it is appropriately modeled may create competitive advantage in any organization and that knowledge, information and creativity become priorities when related to tangible assets.*
KEYWORDS: *intellectual capital, knowledge, competitive advantage.*

1. THE SIGNIFICANCE OF THE INTELLECTUAL CAPITAL NOWADAYS

The concept of intellectual capital in the business world appeared during 1990. There are two separate ways of thinking about intellectual capital; however, one can see some connection between them. One concerned the information, the power of mind by focusing on the creation and expansion of knowledge within the firm. The other, based on resources was focused on unique combinations of monetizing intellectual capital and tangible resources.

According to Leif Edvinsson, on enterprise level, a number of significant prototyping project have been launched, such as [7]:

-RICARDIS. Reporting on Intellectual Capital to Augment Research, Development and Innovation in SMEs, a European Commission project finished in 2006

-EFFAS. European Federation of Financial Analysts, officially published in March 2008, the Principles for Effective Communication of Intellectual Capital

-WICI. World Intellectual Capital Initiative, a public/private sector consortium researching and developing intellectual capital accounting and integrated reporting, with the backing of leading accounting firms and leading intellectual capital scholars. [12]

The third millennium society has employees that are valuable due to their knowledge. Intellectual capital is the term assigned to intangible assets that combined enable the company to operate effectively. Intangible resources are the hidden component of the economy of a company and therefore they are more difficult to identify, assess and be copied. However, in the new economy, intangible resources are a priority in comparison with tangible resources [19].

Starting from the definition of intellectual capital "as that resource native to an organization which through extraction, processing and successive dissemination is transformed into the most valuable asset" [3], is emphasized that the development of competitive capacity is based on innovation, intangible resources of an organization and use of competitive intelligence; as such innovation is the process by which are built the new products, new services, new technologies, new processes of management and marketing. The concept of "intellectual capital", called also the "currency of the new millennium", represents the key to success in the "Knowledge Age" [11], a way of creating value and a hidden resource of an organization [9].

Bra□tianu [3] focuses on organizational intellectual capital as an organizational integrator. In this case the growth of intellectual capital depends on components like individual knowledge, individual intelligence and individual cultural values. [4]

2. THE ROLE OF INTELLECTUAL CAPITAL WITHIN THE ORGANIZATION

In the new business age, the economic production system and the value creation system have involved more and more the use of knowledge and thinking. Intellectual capital is now seen as a relationship between past and future. The intellectual capital that has developed (in the past) around an organizational architecture based on a given technology must be constantly adapted to organizational changes to meet (today) aggressions of external factors, thus preventing the dissemination of information and knowledge between the new levels of the organization (in future). Under these conditions, intellectual capital becomes the instrument intended to define clear priorities and differentiate the present ones from those of the past and from those of the future of the organization. In detail the components of the intellectual capital refer to the following aspects: -Market assets - are the ones resulting from an organization beneficial relationship with the market and customers. Examples include: customers and their degree of loyalty, distribution channels, various contracts and agreements, etc. -Intellectual property assets - including know-how, trade secrets, copyright, patents or other rights. -Human centered assets - refers to the ability and creativity, problem-solving, as well as leadership qualities, entrepreneurial competences and managerial skills that employees of an organization possess. Infrastructure assets - regard those technologies, methods and processes that enable an organization to function effectively in the long term. Organizational culture must therefore embrace creation, innovation, transfer and reuse of information and knowledge in order to make the most of everything that provides intellectual capital.

The definition that best suits the problem at hand is the definition developed in collaborative effort. According to Edvinsson, Onge, Sullivan, the Canadian Imperial Bank of Commerce (CIBC) together created the following definition: Intellectual Capital = Human Capital + Organizational Capital + Customer Capital). [12]

Edvinsson, Sullivan and Onge developed a diagram, which underlines the direct relationship of the different elements of this definition and the way in which value is created when knowledge flows between them. The dotted triangle represents the management of intellectual capital. The idea is to enhance the number of interrelationships resulting in maximizing the value space.

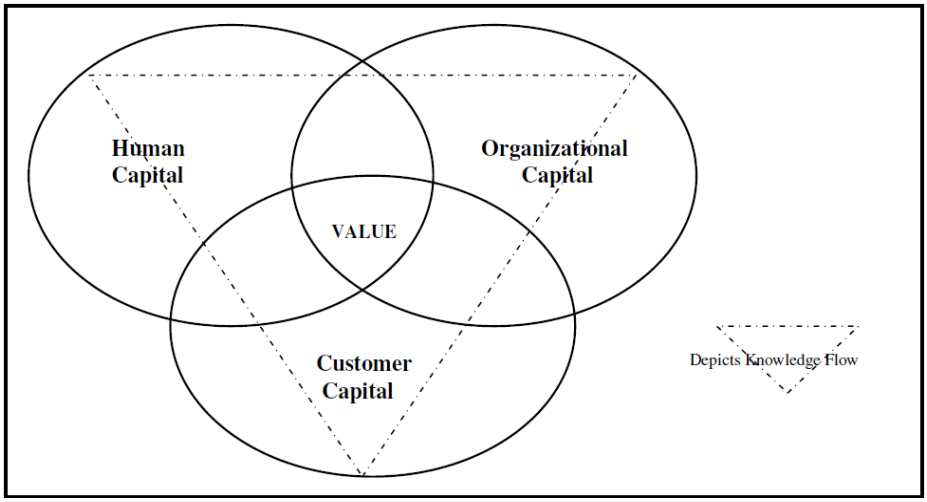

Figure 1. Visualization of intellectual capital [12]

These three forms of capital are also known as respectively, human capital, internal structure and external structure. These building blocks and the issues belonging to each block are outlined in the framework [12] presented below: (1) Human Capital: employees, education, training, work-related knowledge, entrepreneurial spirit; (2) Organizational Capital: intellectual property, management philosophy, corporate culture, management processes, information/networking systems, financial relations; (3) Customer Capital: brands, customers, customer satisfaction, company names, distribution channels, business collaboration, licensing agreements.

3. MEASUREMENT OF INTELLECTUAL CAPITAL

One of the latest work referring to the methodology of measuring the intellectual capital of nations is written by Dorota Weziak based on a study since November 2007 which is symbolically entitled „Measurement of national intellectual capital: applied in EU states" [24]. The method used by Weziak confirms that there are links between intellectual capital and GDP per capita of European countries. Intellectual capital indicator was first introduced by Roos who suggested that measuring a company in this index can be done if known: company strategy, company characteristics and their daily operations [16]. Annie Brooking makes a practical contribution to the measurement on IC offering three models [5]. The author defines IC as the combination of four components: market assets, human resource-based assets, intellectual property assets and infrastructure assets.Brooking offers three methods of calculating the value of IC: Cost (based on assessment of asset replacement cost); through the market: the income (approach which assesses the ability to bring profit to that asset). Starting from international developments achieved in this area, nations' IC can be defined as bringing together all the intangible resources that a country or region dispose of and which gives a relative competitive advantage and put in combination are able to generate future benefits. In order to measure intellectual capital especially to be implemented at national level, the content of intangible asset classesmust be expressed appealing to aggregate variables such as: Human capital is everything to do with people: knowledge, education and skills capable individual national targets. Structural capital is "non-human knowledge stocks that are found in technology, information and communication systems and organizational structures."[2] Relational capital envisages comparing measurements from different countries or different periods, giving relevant figures. On the other hand the Lisbon Agenda clearly shows the type of intellectual capital that the EU wants to create in order to become competitive and dynamic. If you express the Lisbon Agenda in terms of indicators there are obtained 38 indices for measuring intellectual capital in the EU. We shall reffer to some of these in the following sections.

4. RESEARCH METHODOLOGY AND OBJECTIVES

The purpose of this paper is to perform a comparative analysis of the main pillars of intellectual capital in companies in EU member countries, following the place that Romania has in this context. The proposed objectives aim to:

- highlighting the importance of intellectual capital in the knowledge society (as empires of the future will be true empires of the mind)a world dominated by the power of intangibles and brain and that this "intellectual capital consists of intellectual material - knowledge, information, intellectual property, experience that can be used to create wealth"by analyzing the key variables of human capital dimension of EU countries. [17]
- analysis of firm performance and achieving competitive advantage in EU countries by using the corresponding variable relational capital dimension such as customer orientation degree, investment of companies in research-development-innovation.
- analysis of the performance of companies from EU countries on variables such as structural capital and ethical behavior of companies.

5. DATA ANALYSIS AND INTERPRETATION

Intellectual apital is an important resource of the knowledge economy and it is imperative that all stakeholders to be informed about the use of the intellectual capital of the company. Its reporting is a process that describes how the company uses its intellectual capital to create value for its customers. An important facet of an investment in human capital is education through intensive use of knowledge in research and in particular by increasing the share of highly educated people in active population. Currently, the average population with higher education aged 30 to 34, in period 2000-2014 in the EU is 25.9%, while in the US reaching 40% and in Japan exceeds 50%. The data presented highlight the significant differences between countries. Basically, the maximum percentage of Finland (45,3%) is three times higher than the minimum percentage of Romania (25%). The maximum percentage of Suedia (49.9%) is almost two times higher than Romania's (25%). Lithuania, Cyprus, Denmark, Luxembourg are the countries with the highest percentages in 2014, respectively 50% in the population with higher education, aged between 30-34 years.

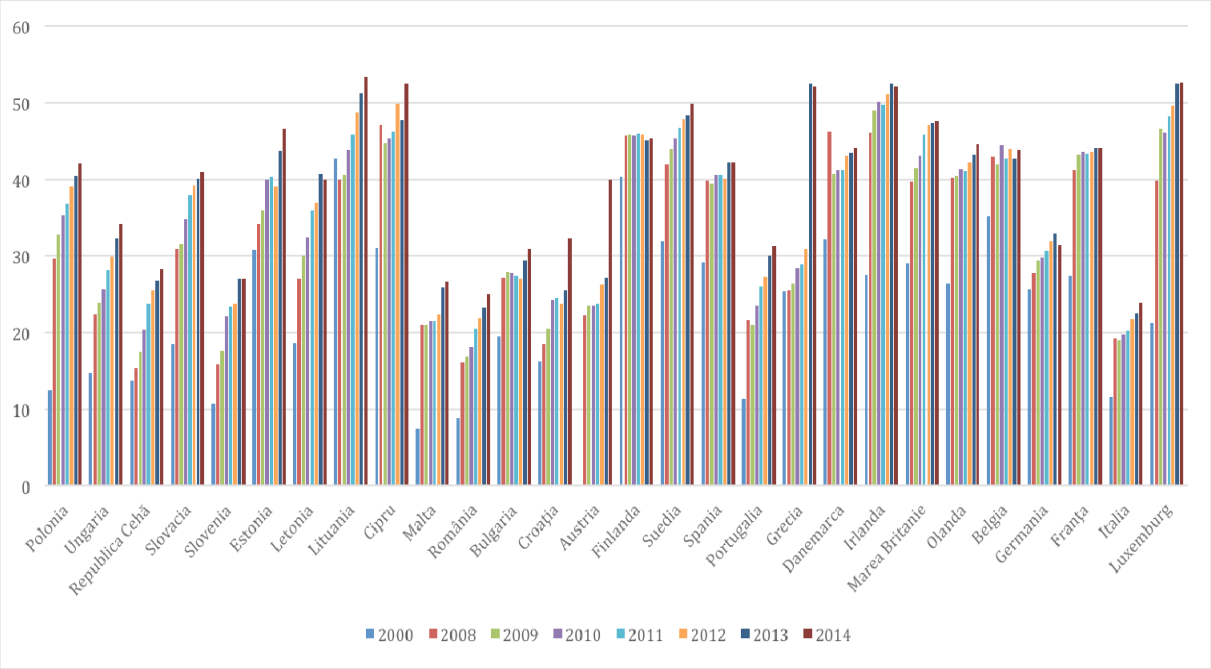

Figure 2. Population with higher education by country, age 30-34 years, 2000-2014, [25]

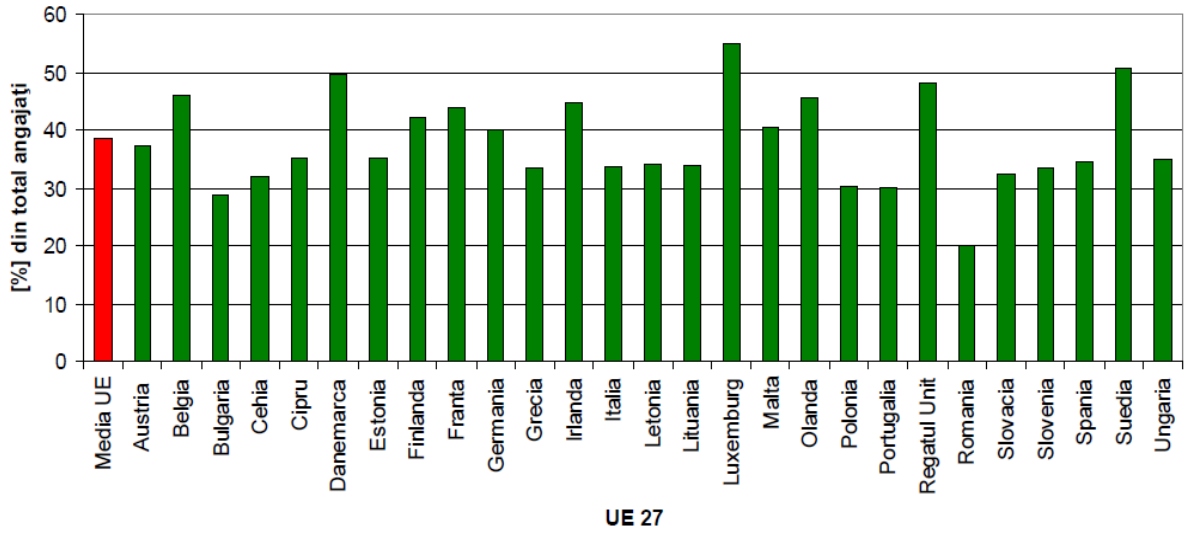

Figure 3. Employmenet in intensive knowledge use sectors, [25]

Comparison with other countries shows that the focus in the national strategy related to higher education must be done simultaneously, the quality of education while increasing the number of students in all forms of education. Note that countries with a higher allocation of GDP for research and development have a higher proportion of people with higher education in the total active population. It points out that national policy focused on education will be found in a series of results related to higher employment in basic research, high-tech sector requiring intensive use of knowledge acquired in the education industry. While 38.5% of the EU workforce is employed in knowledge intensive services (50.7% Sweden, Belgium 46.1%, Denmark 49.7%, Netherlands 45.6%) in Romania only 20% (minimum EU) of the workforce is employed in this area, closest to Romania being Bulgaria with 28.9%, Portugal 30.1% and Poland with 30.4%. Data indicate interdependence between investment in education and how this is reflected in research, in high-tech sectors and increased productivity. According to the data of Fig. 4, it is observed that at European Union level, between the years 2000 to 2012, most graduates preferred fields of social sciences, business administration and law (32.85%), follows the production, engineering and construction (15.01 %), the health and welfare (14.35%), humanities and arts (12.23%), sciences of education and training (8.04%). Romania is No. 2 as a percentage of total graduates in engineering, manufacturing and construction (22.78%), number 1 being Finland (24.07%); Romania ranks on 5th place in the social sciences, business administration and law - 42.95% (representing the largest domestic share, followed by field engineering), and the last places in science, mathematics and IT between EU countries (5.84%) - EU average: 9.5%.

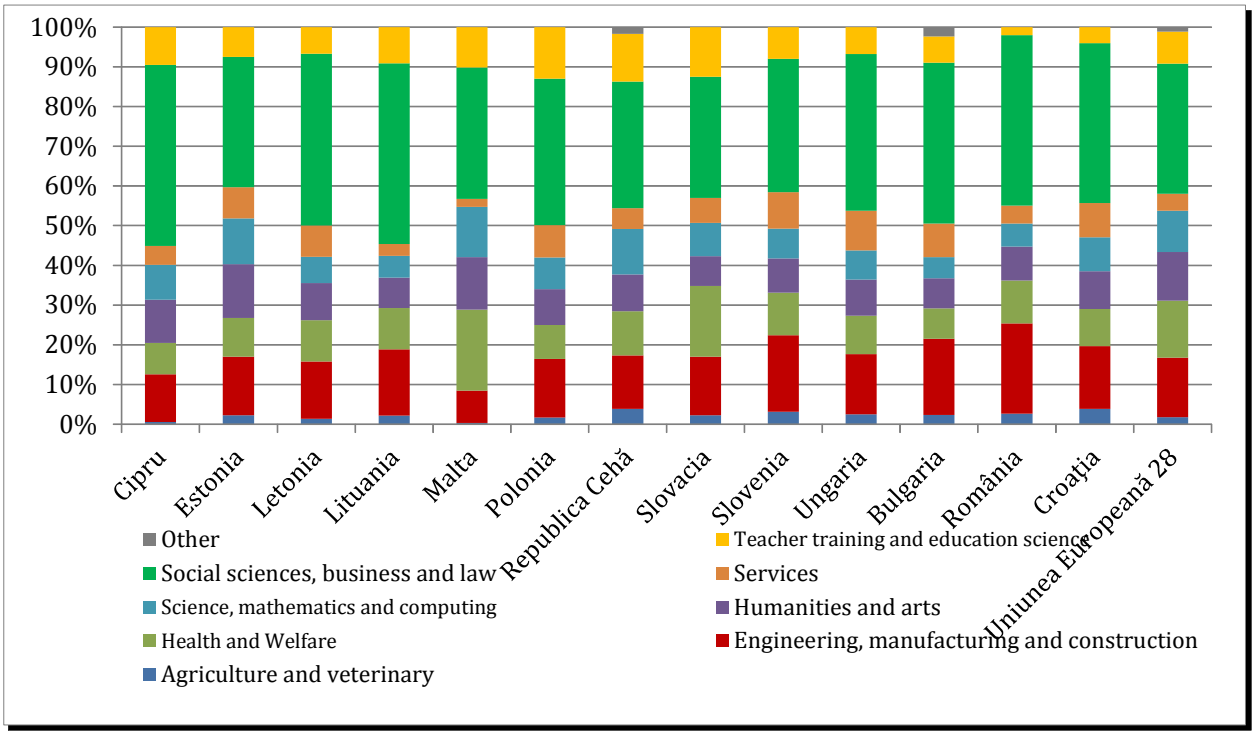

Figure 4. Graduates of higher education on study domain at EU level, in 2012 [25]

In Romania, only 1.5% of the population aged 25-64 years participated in education and training activities in 2014. Although it has been registered a growth compared to 2000, the share of the population participating in training and preparation is very low compared to that recorded in the European Union (10.7%). The gaps between Romania and the European Union are increasing, from 6.2% in 2000 to 9.2% in 2014, as shown in Fig. 5.

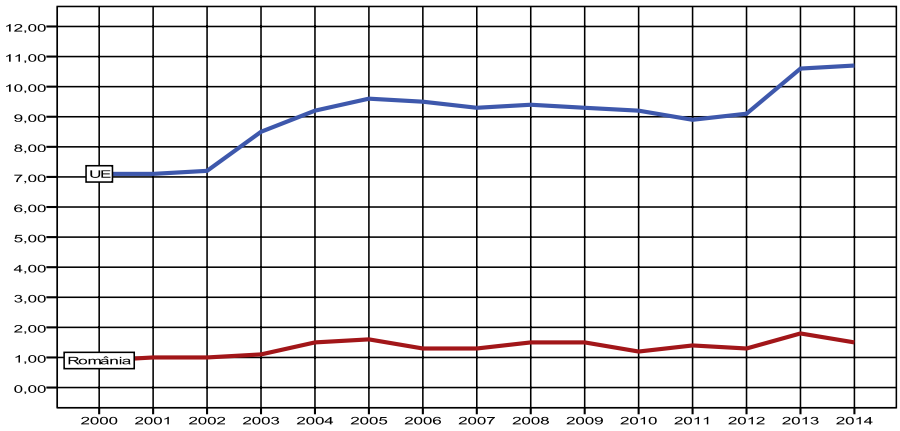

Figure 5. Lifelong Learning –comparison with the EU average (2000-2014) (% population aged 25-64 that participate in education and training) [25]

Regarding the variable related to human capital, namely staff participation in trainings in companies from EU countries, as can be seen from the chart above, the percentage of people aged 25 to 64 participating in education and trainingin Romania is much lower than the EU average.

Education and research, no matter how noble they may be, are not activities themselves. They are the means by which we build a kind of society, and knowledge appears as a catalyst that accelerates promoting technical progress and increase the efficiency of any human activity. Regarding the important role of research and development in economic & social progress there tends to be a consensus both in literature and in the economic environment. This indicator is useful in analyzing the trend of higher education, because it provides information on the support that the European Union grants to innovative design ideas. Also, our approach supports component the "R & D" as linked intrinsically to the broader issue of quality education that is specific to any nation in the world. The stream of reasoning is reiterated in several studies, suggesting that there are interactive effects between education level of the workforce and technological activity, such as R & D intensity within a country.

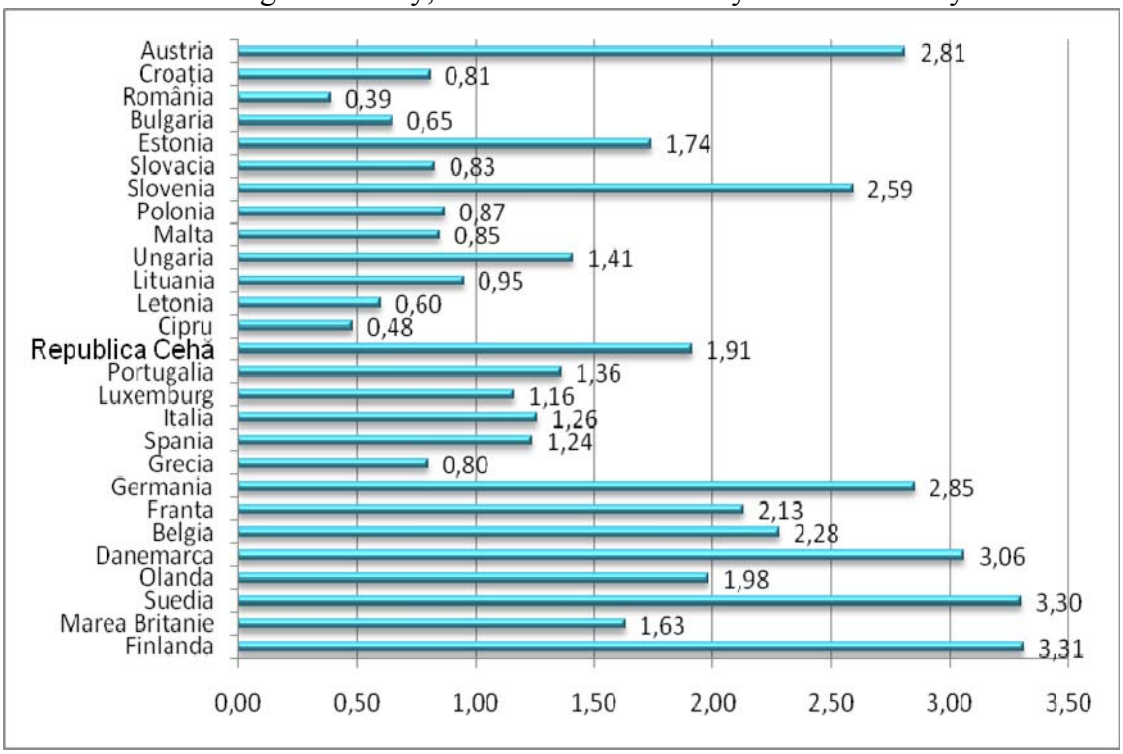

Figure 6. Percentage of R&D services in the GDP of EU states in 2013, [25]

Field of research and development is supported through financial and human efforts by all countries, as they are the road to competitiveness, growth and economic prosperity. As shown in Figure no.6 is particularly remarkable that developed countries, for which this area is a priority, have benefited from significant financial resources. Beyond the methodological aspects, the fact is that the development of this strategic sector activity has been declining compared to 2009, which is likely to compromise our chances to move towards a strong and innovative production with higher value added. For reference, it is worth to present the European standings in the year 2013 which is dominated by Nordic countries by reference to some countries in southern continent. The first place Finland (3.31%), followed by Sweden (3.30%), Denmark (3.06%), Germany (2.85%) and Austria (2.81%). The peak is the 2009 trend is an upward during 2000-2009 and 2009-2013 is downward. The support objective, of general development, implies that the share of total R & D funds to 3% of GDP. This objective has been implemented and exceeded by the Nordic countries, which maintain a constant line (target for 2014 being 4% of GDP), while the other five Member States, namely France, Belgium, Germany, Slovenia and Austria, although not reach the 3% target, have exceeded the average UE28. The level is less than 1% in most countries in Eastern Europe, which are part of the 2004 wave of EU accession. Here, we note the presence of Hungary, which in terms of gross expenditure stands at more than 2013 (1.41%), together with Estonia and the Czech Republic, but ranking culminates in Slovenia (2.59%). Romania is in last place (0.39%), being surpassed by Bulgaria and Croatia. The level of these charges has been oscillating with downward trend. Even though before 2009, Romania was following the "trend", a short distance from Poland, then neglected this key area and lost ground. The maximum level of this indicator was achieved in 2007-2008, when it was close to 0.6% of GDP. After four years, where he was stationed it seemed just below 0.5% of GDP in 2013, the amounts allocated for R & D fell below 0.4% of GDP.

The new economy, the new way to create wealth, professions of the future involve the formation of man who would serve this society, which is why education, training must take account of these challenges, the role of educational institutions changing into a world information is accessible via modern information and communication systems.

Thus, countries with high level of education become serious competitors for the other, by increasing their capacity to better adapt to new technologies, globalization challenges. People are, in this view, a vital resource of any organization that ensures the survival, development and success of its competition, ie, becoming more of an organization's competitive advantage lies in its people. [10]

6. FINAL REMARKS AND CONCLUDING IDEAS

Because intellectual capital is one of the most important resources of knowledge economy, it is important that all stakeholders are informed about the company's intellectual capital. Its reporting is a process that describes how the company uses its intellectual capital to create value for its customers.

An important role in achieving this objective was the article "Brainpower" written by Thomas A. Stewart, one of the editors of the "Fortune"magazine in June 1991, who used the concept of "intellectual capital". Basically, it (IC) is the sum of everything each employee knows in a company and can be used in the development of its competitive capacity. It shows that, unlike accountants operating elements and assessing the value of a company (land, buildings, equipment and financial flows), intellectual capital is intangible. It is however very difficult to identify and evaluate. Intellectual capital is both a contributing factor to increased organizational performance and the outcome of the ongoing transformation of knowledge.

The main objective of this paper was to highlight the importance of intellectual capital in the knowledge society, of that "empires of the future will be true empires of the mind", world dominated by the power of intangibles and brain [20] and that this "intellectual capital

consisting of intellectual material - knowledge, information, intellectual property, experience can be used to create wealth." [17]
Knowledge management can be seen as a step that employ specific strategic actions aimed at motivating the organization towards accumulation and exploitation of new knowledge by fostering lifelong learning. A cornerstone of knowledge management is to provide support, management and intellectual capital development to achieve high and sustainable financial performance.
At the end of our debate we emphasize that an organization oriented towards learning is an organization able to create, attract, interpret and enhance knowledge dynamics by purposefully changing the behavior and structure in order to discover other new perspectives of development. Throughout the paper we stressed the importance of the learning process and we consider that it plays a critical role especially in filling in the knowledge gaps of individuals, teams and organizations. Once again we mention that intellectual capital is a dynamic component that may be modeled continuously with respect to its quantity, quality, value, usefulness and intensity of use. [1]

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