

# **CHALLENGES FOR THE DEVELOPMENT OF INTELLECTUAL CAPITAL IN ROMANIAN EDUCATION INSTITUTIONS IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT**

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*The present world undergoes continuous changes. Our society is facing unprecedented challenges, which can be approached in two clear-cut ways. The first perspective deals with sustainable development in order to recognize this unsustainable “journey”, to create solutions accordingly and reverse trends. The second one deals with resource depletion, consumption and quantitative growth only, which guarantees failure. While heading for sustainable development education plays a key role. The education system, particularly the academic one, trains those people who will give the guidelines for the development of our society for the next decades. This paper is aimed to analyse the current situation of the Romanian education and the challenges faced by the Romanian education system from the standpoint of the three components of intellectual capital: human capital, structural capital and relational capital.*

*Keywords:* sustainable development, education, intellectual capital, human capital, structural capital, relational capital

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## **Introduction**

The first concerns regarding sustainable development were expressed approximately 35 years ago, in 1972 when the Conference on environmental issues in Stockholm took place. On this meeting, the first warning concerning the impairment of the environment and ecological issues was drawn (Report of the United Nations Conference on the Human Environment, 1972). Human kind, driven by the extensive economic growth goal, keeps neglecting or underestimating the necessity of rethinking all economic activities in terms of sustainable development. In 1992 the United Nations Conference on Environment and Development was organised in Rio de Janeiro and, on this occasion, “Agenda 21” and the “Declaration of Rio de Janeiro” were adopted. These documents represent manifestos for promoting global thinking and orientation from the standpoint of sustainability and underlie the concept of sustainable development (Report of the United Nations Conference on Environment and Development, 1992).

It is easily noticeable that, in the first place, sustainable development is mainly looked at from the ecologic standpoint. In the following years, a new dimension takes shape, the socio-cultural one. Within this approach, the *educational dimension* can be integrated *as seen from the standpoint of human capital development*. Adequate education is already widely known to be the premises for successfully dealing with future challenges. This because progress largely and increasingly depends on the innovation capacity, research and the way future generations adapt to present and future requirements. This perspective also took shape within the Global Summit on Sustainable Development that took place in 2002 in Johannesburg, when most of the action lines mainly concerned the development of human capital (Johannesburg Declaration on Sustainable Development “From our origins to the future”, 2002).

## **Intellectual capital**

The intellectual capital concept is not a new concept, but its importance gained over the past years for the evaluation of the capacity of competition among organisations as well as for the evaluation of their innovation potential in the context of the knowledge-based economy has generated a genuine explosion of researches and studies. Intellectual capital is a fuzzy concept because its boundaries are not clear-cut and it interacts with the concept of human capital. For instance, Stewart (1999) considered intellectual capital to be the sum of everything that everybody in the company knows, which bestows competitive advantage, or to be intellectual resources – knowledge, information, intellectual property, experience –, which can be used to create wealth. This is about collective intellectual power.

The complexity of concepts and ideas from the semantic cluster of intellectual capital has generated different approaches, as well as various research directions. However, as it results from the almost-exhaustive analysis of Andriessen's (2004), the large majority of authors consider intellectual capital to be an organisational potential structured as follows: *human capital*, *structural capital* and *relational capital*.

*Human capital* is crucial because it is the very source of innovation and renewal and it represents the employees' capacity to offer solutions to customers (in the case of the education system, professors, educators and trainers). *Structural capital* refers to the organisational relations that enable the transformation of intellectual potential into concrete actions in order to create value embodied in products and services supplied by the organisation (for instance, the technologies used or the management system). The *relational capital* represents the value of the relations that the organisation has with its stakeholders (for instance the relations between universities and the business environment, industry, high-schools, alumni, between schools and the local community) (Nicolescu & Nicolescu, 2005).

### **Dynamics of intellectual capital in the Romanian education system**

Next, starting from the development guidelines of the education system at global and European level, we shall analyse Romania's current situation and the measures taken at national level. We shall also debate upon the challenges that the education institutions face in Romania from the perspective of the three aforementioned components of intellectual capital.

Nicholas Burnett, the assistant of the General Director for Education in UNESCO, defined *six development dynamics for education*: demand, diversification, institutional networking, life-long learning, ICTs (Information Communication Technology) and social responsibility (Burnett, 2008) at the International Conference – “Higher Education to 2030: What futures for Quality Access in the Era of Globalisation?”, organised in France.

These development guidelines are to be found at European Union level in documents such as the Lisbon Agenda, which aim to transform the European Union into “the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment by 2010” (Lisbon Strategy, 2000). Also, the Bologna Declaration sets as target the creation of a competitive higher education area in the European Union by acknowledging degrees and ensuring common quality standards in Europe (The Bologna Declaration, 1999).

At national level these guidelines are transposed into the “National Strategy for Romania's Sustainable Development, Horizons 2013-2020-2030” adopted on November 12<sup>th</sup> 2008 by Romania's Government. It is comprised of two chapters on sustainable development in the education field: Education and Training, Scientific research and Technological Development, Innovation.

Romania is trying to keep abreast of the objectives set at Lisbon, but the results are still below the European average: the Romanian average school life expectancy in 2005 was 15.3 years as compared to 17.6 years in the EU-27. The rate of inclusion of people aged 15-24 in education increased from 37.3% in 2000 to 46.1% in 2004, but the early dropout rate is still alarming – 19%

in 2006 – much over the EU-27 average level – 15.2% and over the main objective of 10% set for the application of Lisbon Strategy objectives for the year 2010 (National Strategy for Romania's Sustainable Development, 2008). Equally alarming are the statistics showing that only 11.7% of the adults aged 25-64 are graduates of higher education as compared to 27.7% in the USA, 16.4% in Great Britain or 15.4% in France. Thus, Romania ranks poorly if compared to the requirements of the knowledge-based society.

Even more alarming are the results regarding the Romanian education system delivered by the Assessment performed in 2006 according to the methodology of the Organisation for Economic Cooperation and Development (OECD) under the PISA system (Programme for International Student Assessment) for the general academic results of children aged under 15. This ranking placed Romania 47<sup>th</sup> out of 57 participating countries, 52.7% of the Romanian pupils being under the scientific literacy level. The PISA report as of 2006 highlights a large variation among the results obtained by pupils from different schools and identifies large performance gaps at pupils coming from the deprived segments of population. As concerns the understanding of environmental issues, less than 40% of the Romanian pupils have succeeded in identifying and explaining them.

(<http://www.oecd.org/dataoecd/15/13/39725224.pdf>)

### **Human Capital**

The jobs in the Romanian education system are not attractive because of the poor remuneration and the lack of accuracy and transparency of the advance criteria. This situation leads to the *human capital crisis in the Romanian education system*. The application of subsistence strategies imposed by the lack of resources (finance as a ratio of GDP three times lower than the EU average) has seriously impaired the attractiveness of the research and implicitly university career. This resulted in a large migration of highly qualified researchers to other industries or abroad. This situation could be improved by adopting the following measures:

- supporting initial and life-long education; facilitating the academics' access to pedagogy and interdisciplinary master's programmes;
- increasing the number of academic exchanges, such as Erasmus, Comenius;
- attracting young researchers into the academic environment by extending their opportunities for doctoral and post-doctoral studies and offering attractive scholarships in this respect;
- improving the recruitment and advance systems for the best graduates of universities within the education field;
- offering special benefits to academics working in rural areas and in institutions for people with special needs.

### **Structural capital**

From the perspective of the structural capital several sensitive directions are identified. Our analysis shows the crisis of the *internal organisation of the education system and its objectives*. The education system is not organised to meet the training needs of children, youngsters and adults according to their cognitive capacities and their personal interests (excessive levelling). Too much attention is paid to the information transfer as compared to the one paid to the development of interactive capacities and attitudes. Thus, graduates are overloaded with facts and information without developing their ability to apply them (Bochniarz, 2006). It is necessary that education services be differentiated and personalised according to age groups and various categories of needs. Overall, the abilities that need to be developed in order to promote sustainability are freeing personality, performance in a specific field, adaptability to new cultures or sets of values, socialisation abilities, leadership, respect for the environment, entrepreneurial culture, civic sense etc. This implies the re-education of teachers in this new direction, but this activity can prove to be extremely expensive. One alternative would be the more active and

numerous attendance of counsellors starting from primary education, in order to identify personal skills and to advise them accordingly in one direction or another.

Our analysis also shows the need for internal organisation of education institutions as entrepreneurial universities. Before 1989 universities would not question their existence and performance because the number of candidates used to be much over the number of available places. Upon graduation, all graduates were guaranteed a job, irrespective of the quality of their degree. There was no such thing as a university to analyse the fluctuations on the labour market, to adjust its education offer accordingly and to organise marketing campaigns in high-schools etc. Also, universities used to be financed equally and in an egalitarian fashion, irrespective of the performances of the academic process or the scientific research. At this moment, a large amount of university finance is done by own resources. On the one hand, competition has increased following the development of the private education system. On the other hand, there is “customers” migration to foreign education centres. For old public universities, becoming entrepreneurial is a sensitive issue due to their traditional way of doing things and their partial dependence on government regulations and finance (partial autonomy). Just as it is the case of a company, there is a need for professional management and application of strategic management tools: vision, mission, objectives etc. “The functional resizing of universities leads to the fact that they become service suppliers for the society and, as a result, they are in competition with other education service suppliers for obtaining financial and human resources needed for an appropriate functioning. The university has to develop its entrepreneurial behaviour and strategic management that can bestow strategic competitiveness. Warwick University, Great Britain and Twente University, the Netherlands are meaningful examples of entrepreneurial universities with excellent results obtained following the implementation of strategic management.” (Bratianu& Lefter, 2001, p.19)

*High-tech information and communication technologies* used in Romania within the process of teaching/training are much less developed as compared to other EU members. In order to overcome this situation, all the training and improvement programmes for teachers shall include compulsory study modules on the most recent technologies. Similarly, the increasing use of such technologies in all educational field is obvious: distance learning, e-learning, on-line lectures, the creation of the so-called “open universities”, e-courses etc. All these new forms of learning render education more accessible, especially for those adults who are already in the labour market. In addition, these methods enhance the international visibility of universities through their access by interested people in other countries.

*The curriculum* is overly theoretical and not applicative, rigid, past-oriented, unattractive. Recommendations ask for a core curriculum (of around 70%) and elective subjects. In the academic environment, the weight of elective subjects is recommended to be larger. The assessment takes place mainly by direct reproduction, without motivating the interest for knowledge on behalf of pupils and students. Most of the times, the *teaching methods* are also old-fashioned and the exposure prevails. In competitive education systems much more efficient methods are used, such as debate, feedback, direct experiment etc.

### **Relational capital**

As concerns the relational capital, there is a set of strategic directions to be considered. The education system is not focused on meeting the demand on the labour market. This issue is frequent in most of the ex-communist countries. During the communist era, the entire education system used to be overly centralised and rigid and it used to function as a linear, determinist and controllable system by the ministry. “Adapting this system to the political, economic and social environment used to be a matter of loyalty and servitude rather than the achievement of an optimum relation among its external forces”(Bratianu& Lefter, 2001, p.19). New fields of study should be introduced in order to meet the demand in the new market economy. More systematic

communication is recommended among the parties of the civil society: state, citizens, companies. More partnerships are desirable among education institutions and companies (pupils/students recruitment, joint research projects, well-established internships etc.). The jobs suppliers need to be encouraged to think on the long term and to pay special attention to their implication in the education process. To this purpose, interaction among universities, the business community and the research-development-innovation sector shall be harnessed by well-established partnerships, including complex *interdisciplinary “clusters”* (Svanstrom& Lozano-Garcia& Rowe, 2008).

Relational capital has been developed by concluding partnerships with foreign universities, taking part in bilateral and cross-border projects. From this standpoint, the Romanian education performs quite well, as there are numerous Erasmus partnerships especially within the Bologna process, as well as exchange programmes, master programmes, joint research programmes etc. At the same time, the participation of the Romanian scientific Diaspora in education programmes and projects assessment in Romania should be fostered.

The involvement of universities in society through the life-long learning process needs to be increased. Given the fact that knowledge advances at an exponential pace in the present society, there is growing need for flexibility and readiness to adapt to new economic contexts, education should not be looked at only from its formal side, which is limited to the school education. Education should extend its informal and non-formal sides, where the local community plays an important role. The education process gains a new dimension; it takes place over the entire life and offers to its participants the possibility to update previously acquired knowledge and abilities so that they can be valorised despite the high level of change. Promoting life-long education in Romania represents a priority given the serious lag behind concerning qualification, requalification, specialisation or professional improvement (5 times lower than the EU average). The curricula and the life-long learning forms address all the age groups and levels of qualification. Still, they have a special importance for youngsters, especially for those who dropped out before graduating, for old people who can still work and the deprived population and other vulnerable groups. As compared to the number of 187,000 of participants in professional qualification and requalification programmes as of 2004, it is expected that these figures reach a minimum of 360,000 by 2015. Continuous development may be a partial solution to demographic issues that Romania is facing, by older generations requalification in order to become competitive on the labour market and to extend their active life.

## **Conclusions**

Considering the above-mentioned analysis, we can state that the Romanian education needs to progress in order to be in line with international standards and to achieve sustainable development for the Romanian society. Education has to meet the citizens' needs to explore and elaborate strategies, whose accomplishment ensures sustainable development for local communities and contributes to reaching national and global objectives. The Romanian academic environment should pay more attention to the business and local communities in order to faster overcome their requirements and provide appropriate human capital and expertise. There is an urgent need in the Romanian society for changing the features of human capital to build positive attitude, practical skills, and soft competencies like communication, leadership, entrepreneurial and civic sense, which are critical for developing cluster synergy.

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