



## Education and New Technologies - Case Study on the Romanian Society

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### 1. Introduction

What is the field that the paper covers?

The paper focused on the subject of education and new technologies in a world full of controversies and in an environment in which there are no such notions as certainty, equilibrium or sufficiency anymore.

Moreover, we have chosen to make a case study on students' perception regarding the use of new technologies in Romania's education system at the university level.

What is the importance of the subject chosen and what are its main objectives?

Our research study focused on four main pillars, respectively: a) the reasons that determined countries to choose to invest in educational technologies and the rationales that motivated and shaped these investments over time; b) the necessary steps taken in order to ensure that technologies are effectively implemented and the specific recommendations that have been given priority over time; c) the assumptions that underlie individuals vision for how technologies can impact teaching and learning, and the way in which have these changed over time; d) the place of new technologies in the Romanian university education system, the opportunities, threats, strengths and main weaknesses that it has faced until now.

What are the methods and means that we are going to use in order to conduct our study?

For the first part of our research paper, we have used literature review references on the topic of education and new technologies, presenting the most important beliefs upon the subject at an international and national level.

For the second part of our paper, concerning the case study on Romania, we have used as a method both questioners and interviews on a total of 300 adult Romanian individuals, during the years 2009 and 2011. The final data was centralized in December 2011, and the conclusions were generated and interpreted in January 2012.

Which is the state of research in the field and in terms of literature review?

In terms of literature review, it is generally known that the relationship between education and new technologies has already been discussed in numerous academic articles, research papers and projects and scientific books. Of course, the subject has been debated as well in Romania, where a number of contradictions and ideas have arisen. Still, our research paper and research analysis has its own elements of novelty, consisting in the subject interviewed, the questions prepared both for the questioners and for the interviews and the interpretation of the data gathered.

### 2. Literature review

Our research analysis starts from the idea that UNESCO's overriding aim is to ensure that all countries, both developed and developing, have access to the best educational facilities necessary to prepare young people to play full roles in modern society and to contribute to a knowledge nation [7]. New technologies in terms of information and communication (information and communication technologies or ICT) become, within a very short time, one of the key elements of modern society. Due to this fact, many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy.

Moreover, all governments, including Romania's, aim to provide the most comprehensive education possible for their citizens within the constraints of available finance [1], [2].

In this matter, there were published already a significant number of books and best practice guides, capable to enable countries to give their best in order to accept, implement and better perform in terms of new technologies in the education system.

In our opinion, a very efficient book is "Information and Communication Technology in Education, Curriculum for Schools and Programme of Teacher Development" published by UNESCO (2002), which gives a practical and realistic approach to curriculum and teacher development that can be implemented quickly and cost effectively, according to available resources. The curriculum is designed to be capable of implementation throughout the world to all secondary age students. The programme of teacher professional development relates closely to the ICT curriculum, and particularly to the stage of development that schools have reached with respect to ICT. ICT permeates the business environment, it underpins the success of modern corporations, and it provides governments with an efficient infrastructure [6].

However, ICT adds value not only in the education systems in the processes of learning, but also in the organization and management of learning institutions [3], [4], [5]. Nowadays, the Internet is a driving force for much development and innovation in both developed and developing countries and starting from this aspect, countries must be able to benefit from technological developments.



### 3. Case study on the Romanian society in terms of Education and New Technologies

Our case study focuses on the place of new technologies in the Romanian university education system, the opportunities, threats, strengths and main weaknesses that it has faced until now. Our main purpose is to provide some trigger points ideas that will be presented in terms of results in a SWOT analysis table.

#### 3.1 Research methods and means

Concerning the case study on Romania, we have used as a method both questioners and interviews on a total of 300 adult Romanian individuals, during the years 2009 and 2011. The final data was centralized in December 2011, and the conclusions were generated and interpreted in January 2012.

From the 300 adult Romanian individuals 45% were mail and 55% were female. The questioner started with an introductory part in which we aimed to familiarize our respondents with specific notions on which we intended to gather data.

The questioner had four main parts, corresponding to the final SWOT analysis stages, meaning opportunities, threats, strengths and main weaknesses that the Romanian education system had faced until now in terms of new technologies. Moreover, in order to make sure that the data gathered was useful, we have interviewed them as well.

#### 3.2 Data analysis

Our case study focuses on the place of new technologies in the Romanian university education system, the opportunities, threats, strengths and main weaknesses that it has faced until now. Our main purpose is to provide some trigger points ideas that will be presented in terms of results in a SWOT analysis table (*see Table no. 1: "SWOT analysis concerning the place of new technologies in the Romanian university education system"*).

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In terms of data analysis, the table below shows in a synthetic manner our results:

**Table no. 1:** "SWOT analysis concerning the place of new technologies in the Romanian university education system"

<b>Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>• the Romanian higher education system has high visibility in the African and Asian space, due to the experience of the '80's;</li> <li>• the Romanian higher education system is already based on three cycles: undergraduate studies, with 180-240 credits, master studies, with 60-120 credits, and doctoral studies, 3 years (as illustrated in Bologna);</li> <li>• the Romanian higher education system has improved credit transfer system (recognition of activities provided by the Romanian students in European universities);</li> <li>• in terms of education costs, it is more favourable to choose the Romanian academic, especially in medical and engineering programs;</li> <li>• there are already numerous academic programs taught in English, French, German, also using new technologies;</li> <li>• there are numerous centres for obtaining international certifications for skills (ECDL, Cisco, PMI, Novell, etc.);</li> <li>• there exists a high offer on diverse academic book on new technologies;</li> <li>• there are summer schools and international conferences.</li> </ul>	<ul style="list-style-type: none"> <li>• it has not vast resources, so the use of new technologies is not available at the maximum potential in all educational institutions;</li> <li>• due to the high costs of training, not all the academics have access to the latest trends in terms of new technologies in education so they cannot share new knowledge to students;</li> <li>• the latest technology is not in the universities curriculum the moment they appear and are used for example in USA.</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>• a high growing interest of countries outside the EU for the Romanian educational opportunities;</li> <li>• European funds for investment in education, including in new technologies;</li> <li>• new legislative framework;</li> </ul>	<ul style="list-style-type: none"> <li>• increased competition from USA, EU and other countries higher education systems;</li> <li>• lack of interest in the educational environment;</li> <li>• low stability of educational, political and economic environment.</li> </ul>



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| <ul style="list-style-type: none"><li>• partnerships with foreign universities;</li><li>• new information technologies programs.</li></ul> |  |
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#### 4. Conclusions and limitations

The conclusions of our study have shown that Romania confronts itself with a high deficit in terms of new technologies implemented in the education system. It is clear lack of interest and a high note of irresponsibility to let a countries educational system at random, believing somehow that will find the necessary force to rehabilitate itself and stand in a more advantageous position. In terms of limitations, our study is just the beginning of a more complex research that we have in mind for the next future, but there are more possibilities in terms of new technologies implementation in the educational system in Romania that can be far more exploited.

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