

# The Business Simulator – An Essential Tool for Developing Managerial Competencies to Students in Economics

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## Abstract

*This study aims to analyse a project (POSDRU/90/2.1/S/63442) developed by four Romanian universities and financed by the European Social Fund from the perspective of developing managerial competencies to students in Economics. The main objective of the project is to prepare the transition of 3840 students from school to active life through the creation of an integrated inter-regional network of simulated virtual companies.*

*A secondary outcome is that the project is seen also as a business modelling process in which students are familiarized with the requests of different positions in a company and better understand their compatibility. The simulated company permits to test different business decisions, by applying them into a computer simulated environment and learning by interpreting the results. The results are encouraging and we intend to use this tool extensively within the educational process of students in Economics.*

**Keywords:** e-learning, managerial competencies, professional development, simulated business environment, simulation software.

**JEL classification:** A23, M10

## Introduction

This article aims to study the added value of computer business simulators in developing managerial competencies of students in Economics. We refer to a research conducted as an inter-university project, based on co-operation among students, and co-operation between students, professionals from real companies and teachers in simulated companies by software assistance. Also, the project should be seen as a smooth passage of students from academic life towards working life.

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According to the Organization for Economic Cooperation and Development, „Education policies support human capital accumulation, which is an important determinant of long-term growth performance. Early education helps to broaden opportunity and stimulate subsequent learning” (OECD, 2009).

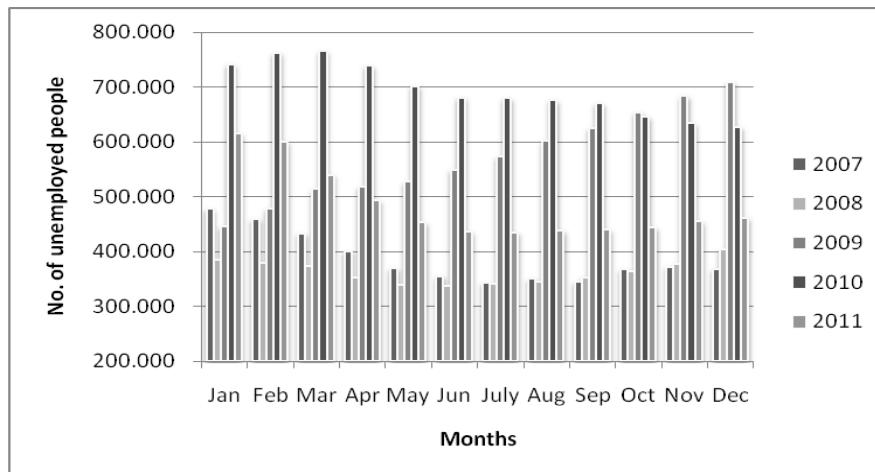
The results presented are the outcome of a day of reflection organized by a group of researchers who were involved in different stages of coordination among various groups of students, in using a software – Topsim - for simulating a virtual company within a project (POSDRU/90/2.1/S/63442) financed through the European Social Fund.

Although the main objective of the project is to ensure the transition to the working life of 3840 students in Economics from four Romanian universities (1056 students from Bucharest University of Economic Studies) through practice in virtual simulated companies, a secondary outcome was identified during our reflection day. The main issue that we tried to address was to evaluate to what extent the decision process in a simulation game is able to develop real managerial abilities for students. In fact, during 12 weeks that every participant is following, the students learn to plan the resources of the company while being lead by relying on IT evaluation tools for analysing the business environment, and take business decision accordingly.

## 1. Context

“The traditional educational system of the knowledge faces many changes arising from the development of the knowledge based economy” (Georgescu, 2012). The new paradigms of the educational process are marked by words such as: increased access to higher education, e-learning, computer based simulations, personalization of learning. To these challenges that at least the Romanian education system should deal with, we have to add the multiples effects of the crisis that affects the world economy by one of its worst recessions. Although it started in the financial markets, the spin-over effect has increasingly affected the real economy. In Romania, the main response of companies was to deploy different cost-cutting measures, starting with drastic reduction of the budgets provided for professional development of their employees. From the educational system point of view, such a decision which affects rather young employees has shown the directions to be tackled: developing new competencies and aptitudes requested by the labor market, during college studies, in order to better prepare the students to find a job rapidly.

According to the statistics published by the National Authority for Labour Force (ANOFM), the unemployment registered a continuous growth during the crisis period (Figure 1). Even worse, between 2008 and 2011 the structure of unemployment registered an average rate of 18,5% for almost exclusively young graduates (\*, ANOFM, 2012).



**Figure 1. The evolution of the unemployment in Romania between 2007 and 2011**

Source: adapted from ANOFM (The Romanian National Authority for Labour), [www.anofm.ro](http://www.anofm.ro)

The crisis changed the standards for the recruiting process as well. Now, the companies are looking for employees not only highly educated but already trained and disposing of competencies that previously to the crisis were developed by the companies themselves (Paraschiv, et al, 2012). Therefore, the challenge for the Romanian universities is to cover this gap by rethinking the competencies that a graduate should acquire during its passage through the education system (Ianos et al., 2011). In our opinion, the focus should be placed on enhancing the link between theory and the necessary practical competencies in implementing it. The abilities that we consider necessary to be developed vary from team working aptitudes to negotiation competencies; from business analysis, decision making process to business modeling. Within this study we will limit our approach to presenting how the decision making process in a software simulated business environment enhances the managerial competencies of students (Paraschiv, et al, 2012).

## 2. The Virtual Company, a solution to develop managerial competencies for students in Economics

Our answer to the new challenges and threats that the crisis raised for students facing the labour market was the initiative called Real Access to the labour market through the simulated company, a project funded by the Operational Programme Human Resources Development (HRD) 2007-2013, in the key area of intervention (DMI) 2.1 – „transition from school to work”. The project - POSDRU/90/2.1/S/63442 - was developed by the University Ovidius of Constanta in partnership with the Bucharest University of Economic Studies (BUES), University A. I. Cuza of Iasi, West University of Timisoara and Structural Consulting Group SRL.

The simulated company represents an accurate image of a real company. It follows at a small scale the organizational structure of the real companies participating in the project. For Bucharest students, the companies selected to participate in the project are: the Romanian Commercial Bank, the Accor Group – Bucharest Nord Ibis Hotel and Asined SRL. Therefore, different software modules are used in order to simulate, as close to possible to reality, the specificity of the three types of business sectors (International Trade, Banking and Tourism) from where the partner companies are coming.

The students move over various departments (Sales, Marketing, Production, Human Resources) throughout all stages of business simulation and are led by a leader selected from different master studies. The students are supervised by teachers, tutors and representatives from the mentioned companies. The internal environment of the enterprise is also taken into consideration, the students being asked to decide on hiring new people, invest in their professional development or even restructure the company by firing the extra personnel. Students take business decisions simulating 3-6 years of activity and can follow the impact of their decisions on the overall performance of the simulated company through different market research and „annual” reports (Figure 2). In addition, they have the chance to discover an affinity for the specific work of each department, thereby gaining some career guidance. As in a real company, the continuity of the business is ensured by shifting the management of the company from one group of students to the next one.

MARKET RESULTS	Old New Rel.	CO.	PRICE EUR/FCU	ADVERTISING			SALES		REVENUES		POTENTIAL SALES	
				mEUR	%	Factor	Units	%	mEUR	%	Units	%
PRODUCT 1 MARKET 1	N	1	2965	3,0	12,9	2,5	41157	19,3	122,03	19,2	13883	5,4
	N	2	3000	3,1	13,3	2,6	40995	19,3	122,98	19,4	13721	5,3
	N	3	2966	3,2	13,7	2,6	41153	19,3	122,06	19,3	13879	5,4
	N	4	2968	8,0	34,3	4,9	44687	21,0	132,63	20,9	76198	29,4
	N	5	3000	6,0	25,8	4,1	44787	21,0	134,36	21,2	141127	54,5
	a/s		2980	23,3	100,0	3,3	212779	100,0	634,07	100,0	258808	100,0
PRODUCT 1 MARKET 2	N	1	5500	0,5	9,4	5,4	1866	33,3	14,37	33,3	1325	20,4
	N	2	5501	0,5	9,6	5,5	1866	33,3	14,37	33,3	1325	20,4
	N	3	5511	0,5	9,8	5,5	1864	33,3	14,38	33,4	1323	20,3
	N	4	5520	0,8	15,0	7,3	0	0,0	0,00	0,0	1321	20,3
	N	5	6000	3,0	56,3	17,6	0	0,0	0,00	0,0	1215	18,7
	a/s		5504	5,3	100,0	8,3	5596	100,0	43,12	100,0	6509	100,0

**Figure 2. Example of the market report generated by the computer for a simulation with 5 companies**

In this respect, the project should be seen also as a business modelling process in which students are familiarized with the requests of different positions in a company and better understand their compatibility with these. One of the most interesting experiences according to our observation is the shock of the students

when their team is suffering the first interaction with the market forces. At the beginning of the simulation game, regardless the team to which they belong, the students are very confident in their forces and therefore are inclined to disregard the existence of the competition represented by their colleagues. In our opinion, one of the main advantages of the virtual company game is exactly the capacity to put students in real situations in order to understand the influence of the market forces on their business decisions and the impact of their decisions on the company's results.

### **3. The Virtual Company, a solution to develop managerial competencies for students in Economics**

The virtual education or the learning through new technologies assistance can also be seen as a response of the universities to the need of developing new competencies to students in order to better adapt the education process to the new challenges of the labour market. Even more, the simulated company allows the students who otherwise would not be able to participate in a training program within a real company to acquire an initiation in working life experience. Besides the main objective of the project, which could be resumed to prepare students to be competitive on the labour market, some other important learning goals are followed through the business simulation process which can be seen as a link between their theoretical knowledge and the real business environment.

In this respect, at the end of the project, the students are able to:

- Recognize the business environment of the company;
- Understand the business principles;
- Take business decisions and understand the outcomes of their business decisions;
- Develop their teamwork abilities and group dynamics;
- Replicate management behaviours;
- Recognize the role of strategy to ensure the sustainability of the company;
- Interpret key performance indicators and their implications for understanding the process of future decisions;
- Take measures to correct wrong decisions.

This simulation represents a realistic model of a competitive environment and provides participants with a fast and safe tool for understanding market forces and the implications of their decisions on the company's business records. A simulation obviously cannot reproduce reality in its entire complexity. For pedagogical reasons and because of the complexity of the simulation, simplifications are necessary to avoid losing sight of the essence and delay the learning experience (Nevo, et al., 2011).

Nonetheless, the TOPSIM software is extremely complex and manages to capture – simplifying of course - the business environment starting with the action of the market forces on their company up the solving internal issues such as: employment, training or the performance and the satisfaction of the employees.

### **Conclusions**

At the middle of the project, although we are not in the position to draw the final conclusions, we can share some of the lessons learned which will be implemented during the second part of the project:

- The success of the first three modules is encouraging. The simulated company is a valuable educational tool for students in Economics. This tool is able to reproduce the action of the market forces on the company's decisions and could be modulated in order to take into consideration the specificities of different business sectors. Even more important, the software' scenarios are fully programmable for covering all types of business environment in terms of opportunities and risks. The main added value to the student's preparation for the active life is the possibility offered to take business decisions in a safe manner, to test it and to understand the results obtained;
- The project is a valuable tool to link the theoretical knowledge of students to business decisions. The simulated company is a safe environment where the students can test their business decisions and understand the effects in terms of profitability, market share or customer satisfaction. Also the students understand the importance of taking care of the internal environment by investing in people, for example;
- One of the project's indicators is the capacity of developing entrepreneurial skills to the participating students. A midterm evaluation showed us that the project registered lower success rates in convincing students to start a business of their own at the end of their studies. Several explanations could be seen. For the moment we wonder if this objective was too ambitious for the resources of the project or we have to measure the results during a longer period of time, considering that most of the participants are still students.

We may conclude that the POSDRU project which was started mainly as an inter-university cooperation network proved also to be a valuable tool for developing managerial aptitudes for participating students. The simulated company allows testing business decisions, applying them and learning by interpreting the results. The results are encouraging and we intend to use this tool extensively within the educational process of students in Economics.

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