

## **SIMULATED ENTERPRISE - INNOVATIVE TOOL WORK FOR ROMANIAN HIGHER EDUCATION**

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### **ABSTRACT**

A reliable, practice-oriented education is the most important basis for a successful start in a profession. Requirements more specific and more complex companies' labour market as regards its ability to students preparing for employment had an important role in building the Lisbon Strategy which states that each Member State should focus on three things: attraction and keeping as many people on the labour market, improving adaptability of workers and businesses and increasing investment in human capital through better systems of education and training.

The purpose of a simulated enterprise is to prepare students for the labour market integration by using an innovative tool for Romanian higher education.

**Keywords:** simulated enterprise, entrepreneurship, business, e-FIH.

### **INTRODUCTION**

Simulation is the process by which a real system is conceived and experiments are performed with that model in order to understand the functioning of the system and / or to evaluate its different operating strategies. The simulated enterprise can be defined as a tool of practical training in the field of information process that uses procedures and means identical to those within real companies, except for products and money, which are simulated. The simulated enterprise, before being a very well-equipped laboratory, is a state of mind, a living organism, a concept that modifies the traditional system of instruments. The simulated enterprise is built on IT systems, which facilitates fast data transfer, low costs and coordinated without geographical and temporary limits. The flexibility of simulated enterprises refers to the ability to redefine goals and to quickly and competitively reconfigure resources to respond promptly to market opportunities.

### **THE CONCEPT OF SIMULATED ENTERPRISE**

The simulated enterprise is an interactive learning method for the development of entrepreneurship, a modern concept of integration and interdisciplinary application of knowledge, an approach to the teaching-learning process that provides conditions for testing and practical deepening of skills acquired by students in vocational training.

The objectives of applying this learning method refer to: developing the entrepreneurial spirit of students in vocational and technical education; facilitating the transition of graduates of vocational and technical education from school to active life; developing the entrepreneurial spirit of adults through continuous professional training programs.

### **THE SIMULATED ENTERPRISE E-FIH**

#### **Brief history**

The simulated enterprise addresses, through the content of the activity, the graduates of the faculties with technical profile, the students from the Economic Engineering profile, starting with the third year of studies, as well as the students from other profiles and the graduates of other faculties, who want to develop necessary skills. small and medium business. Thus, in 2009, I set up, with the help of the student team and with the support of the Faculty of Engineering, the Simulated Enterprise e-FIH (Figure 1, 2).



Figure 1. ROCT Timisoara headquarters (2009).

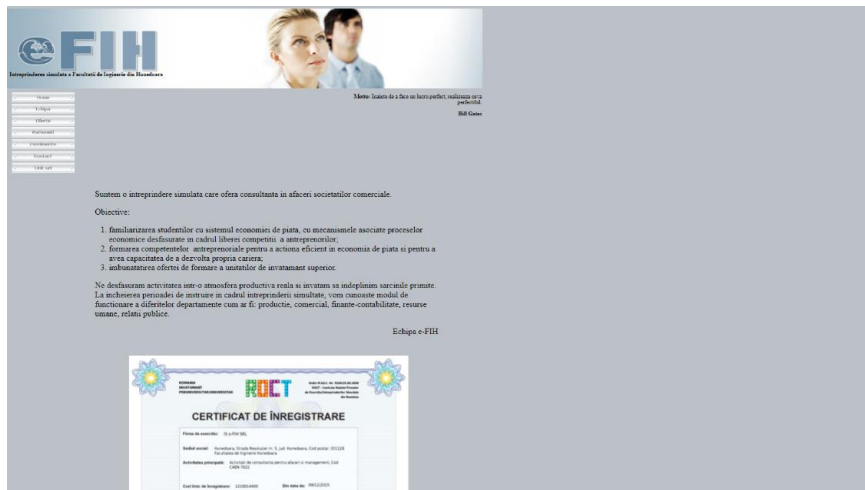


Figure 2. Object of activity and proposed objectives (Intreprinderea simulata a Facultatii de Inginerie din Hunedoara, 2021).

The main object of activity of the simulated enterprise e-FIH is the provision of business consulting to companies. We aim to carry out our activity in a real productive atmosphere and to learn to fulfill the tasks received. At the end of the training period within the simultaneous enterprise, we will know the functioning of different departments such as: production, sales, finance-accounting, human resources, public relations.

The general objective of the simulated enterprise is the development of the entrepreneurial spirit by: familiarizing students with the specific activities of a real company; simulation of operations and economic processes specific to the real business environment; improving the

business language; developing skills and attitudes necessary for a dynamic entrepreneur: creativity, critical thinking, problem solving, decision making, taking responsibility, teamwork, initiative, perseverance, self-organization and self-assessment of individual resources, flexibility.

### **Organizational structure**

In the first stage, the management of the four departments is provided by the training instructors and by the manager, but as we gain experience these functions will be taken over by future generations.

Currently, the company comprises a number of 4 jobs, grouped in 4 departments, as follows:

- management department
- financial-accounting department
- human resources department
- marketing department

### **Offer of services**

The ROCT Regulation stipulates that a simulated enterprise may have a partnership protocol with a real partner (a company that actually exists on the market), which is called a "parent company".

In accordance with this provision, the simulated enterprise e-FIH has as partner the company Abstract Connection from Deva, specialized in the development of IT solutions for business.

With its help we have made four softwares, which we make available to the simulated enterprises with which we have collaboration or sale-purchase contracts.

The software offered is an IT solution called "Abstract Business Administration System", which is organized in modules, corresponding to the existing functional areas in a company, from the supply of goods or raw materials, to monitoring the production process, making sales, reaching up to commercial analysis or optimization of the manufacturing flow.

### **Merchandise supply management**

Supply management is the activity that ensures the necessary material and technical elements, in volume and structure to achieve the overall objectives of the enterprise in terms of minimum costs and a profit as high as possible [VI-2]. It presents itself as a complex unitary concept, which has its own extensive structure of component activities, which consider the problems related to [VI-2]:

- management-coordination;
- forecast-scheduling-contracting;
- organization;
- training;
- effective development;
- tracking-control;
- analysis and evaluation.

In chronological order the actions taken and the applications exploited are the following: In the existing Commercial Abstract module, due to the new functions (Figure 3), orders are drawn up from suppliers starting from:

- sales volume over a certain period of time;
- current stock;
- minimum stock and maximum stock;
- company priorities.
- these orders are sent to suppliers in letter or electronic format.

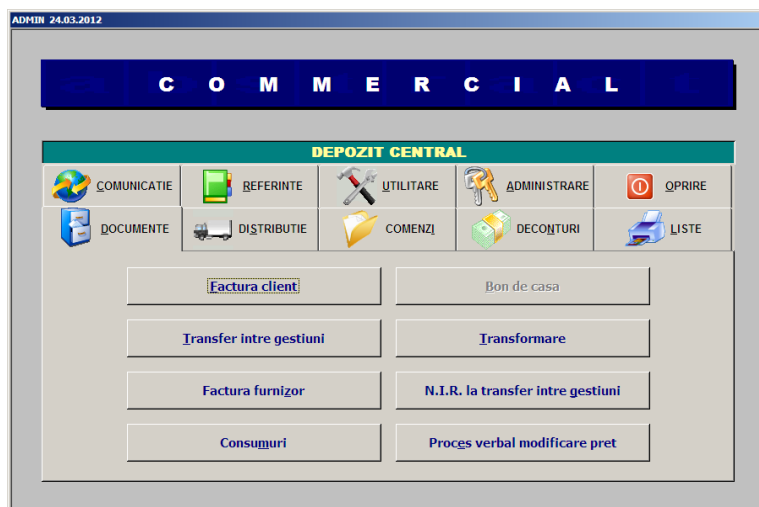


Figure 3. Commercial Abstract module.

In the newly designed Scan Abstract module (Figure 4) the following operations are performed:

- registration in the warehouse of goods receipts from suppliers;
- registration in the warehouse of transfers to and from other managements;
- performing the inventory of the stock in the warehouse.



Figure 4. Scan Abstract module.

The new integrated functions in the Commercial Abstract module ensure:

- registration of entry documents based on the delivery documents of the suppliers and the receipt of the goods from the warehouse (Figure 5);
- highlighting the differences in supply in relation to orders issued to suppliers;
- registration of cash statements, respectively of payments to suppliers;
- highlighting and controlling the flow of information through specific reports.

% TVA	Tip	Numar NIR	Data NIR	Nr. Factura	Data Factura	Scadenta	Referinte Furnizori
24	M	1	07.12.2011	38484	07.12.2011	30 06.01.2012	KAMAR BEST

Cod marfa	Denumire marfa	Cantitate	UM	Pret furnizor fara TVA	% Discount	Pret cumparare fara TVA	Valoare la pret cumparare	Valoare TVA cumparare	% Adaos	Pret vanz fara TVA
0129	HARTIE IZOLAT ROLA 0.9MX450M	3,00	BUC	126,00	0,00	126,00	378,00	90,72	39,29	1
							378,00	90,72		

Discount	LA valoare FT	%	Valoare fara TVA	Valoare cu TVA	
0,00	0,00	0,00	0,00	0,00	
				378,00	90,72
				<b>468,72</b>	

Figure 5. Depozit Brasov.

In the already existing Book Abstract application (Figure 6) the operations specific to the supply function are interpreted from an accounting point of view:

- automatic transposition into accounting format of the transactions of goods and money performed;
- completion with records specific to the general accounting activity, related to the acquisition activity;
- highlighting from an accounting point of view the process, through the elaboration of specific reports.

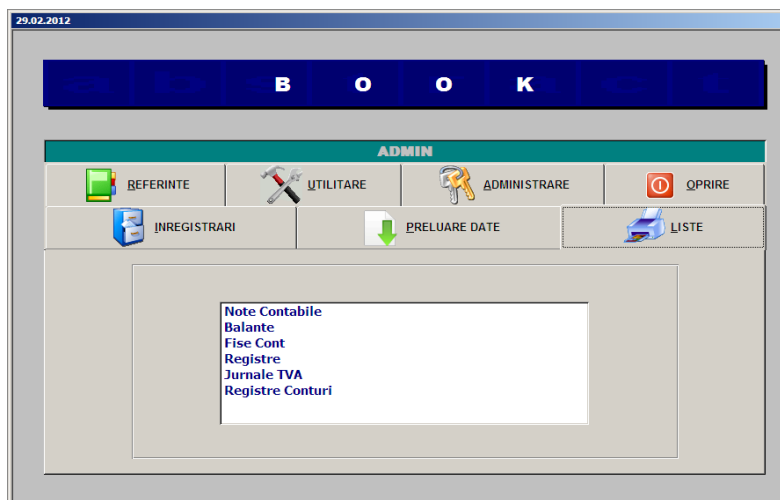


Figure 6. Book Abstract application.

In the Performance Abstract application module completed with new functions, at the management level of the company, the way in which the supply was made is highlighted (Figure 7):

- analysis of stocks of goods: in quantitative and value terms
- valuation of stocks in terms of movement in the warehouse;
- analysis of the acquisitions made, both as structure and as dynamics of the process, in quantitative and value expression;
- evaluation of balances at suppliers.

ZONA	TIP GESTIUNE	GESTIUNE	FURNIZOR	GRUPA	SUBGRUPA	CLIENT
Depozit BRASOV	engros	Depozit BRASOV	PC5	COLOMIX		FANTASY MOTORS
Depozit BRASOV	engros	Depozit BRASOV	PC5	COLOMIX		FANTASY MOTORS
Depozit BRASOV	engros	Depozit BRASOV	PC5	CHR		FANTASY MOTORS
Depozit BRASOV	engros	Depozit BRASOV	PC5	CHR		FANTASY MOTORS
Depozit BRASOV	engros	Depozit BRASOV	PC5	COLOMIX		FANTASY MOTORS
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Depozit BRASOV	engros	Depozit BRASOV	PC5	CHR		AUTOCOLOR 96
Depozit BRASOV	engros	Depozit BRASOV	PC5	CHR		AUTOCOLOR 96
Depozit BRASOV	engros	Depozit BRASOV	PC5	CHR		AUTOCOLOR 96
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CANTITATE	15.689,00	VALORI DE CUMPARARE	FARA TVA	220.644,13	TVA	52.954,59	CU TVA	273.598,72	ADAOS	VALOARE	109.006,52
GREUTATE	0,00	VALORI DE VANZARE	FARA TVA	329.650,85	TVA	79.116,16	CU TVA	408.766,80		%	49,40

Figure 7. Performance Abstract application.

### Sales and delivery management

Sales management is the activity that ensures the sale of goods or the results of production of the economic unit. The action involves establishing the ways, forms and modalities by which the manufactured goods or products are to be sold, as well as the markets that may constitute the scope. It presents itself as a complex unitary process, which has its own extensive structure of activities that address issues related to:

- leadership,
- coordination;
- forecasting-planning;
- the appointment;
- organization;
- contracting-selling goods or products;
- training;
- tracking;
- control of the development-accomplishment of the activity;
- analysis and evaluation of results.

In chronological order the actions taken and the applications exploited are the following:

In the newly developed S.F.A. Abstract is performed by sales agents:

- taking orders for goods from customers during the periodic visit (Figure 8);

- making receipts;
- transmission in the company database of the data registered in the mobile device.

With the help of the new functions in the Commercial Abstract module:

- orders received from S.F.A. Abstract and are sent to the warehouse;
- prepare the data to be retrieved on mobile devices at the beginning of the daily activity.



Figure 8. S.F.A. Abstract.

In the newly designed Scan Abstract module, the following operations are performed:

- the registration in the warehouse of the outflows of goods to the customers based on the orders taken over by the sales agents;
- registration in the warehouse of transfers to other managements;
- performing the inventory of the stock in the warehouse (Figure 9).



Figure 9. Newly designed Scan Abstract module.

In the Commercial Abstract module, it is executed with the help of the new integrated functions: preparation of delivery documents based on orders taken by agents and existing stock (Figure 10); elaboration of the loading report of the delivery machines; drawing up dispatch notices for transfers to other administrations; confirmation of incoming transactions in the transfer of goods.

The existing but much improved P.O.S. Abstract is used for:

- recording the transactions generated by the retail sale (Fig. 8);
- identification of the goods by reading the bar code on the product;
- taking over the recordings from the labeled scales;
- highlighting and controlling the flow of information through specific reports.

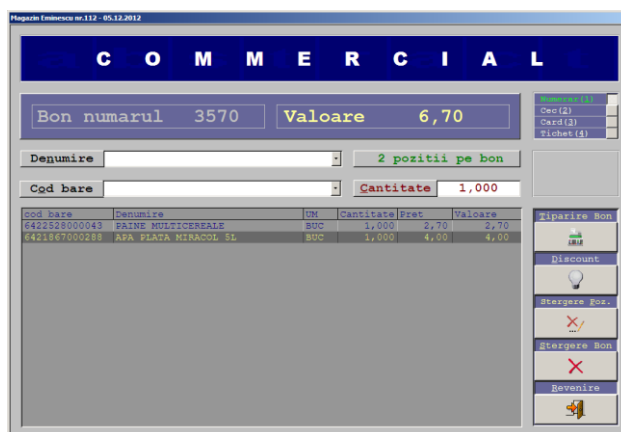


Figure 10. Commercial Abstract module.

In the Commercial Abstract module, it is performed with the help of optimized functions:

- consolidation of data at the level of the entire company;
- registration of cash statements, respectively of the collection of products sold at the level of the entire company;
- highlighting and controlling the flow of information through specific reports.

The already existing Book Abstract application interprets from an accounting point of view the operations specific to the distribution sales function of the company:

- automatic transposition into accounting format of the transactions of goods and money performed;
- completion with records specific to the general accounting activity, referring to the sales activity;
- highlighting from an accounting point of view the process, through the elaboration of specific reports.

In the Performance Abstract application module completed with new functions, at the management level of the company, it is highlighted the way in which the sale was made, respectively:

- analysis of goods stocks: in quantitative and value expression, as well as as dynamics of their evolution;
- analysis of sales made, both as a structure (Figure 11) and as a dynamic (Figure 12) of the process, in quantitative and value expression;
- valuation of customer balances;
- evaluation of the results obtained by the sales agents in relation to the sales volume achieved, the revenues made or the targets distributed.

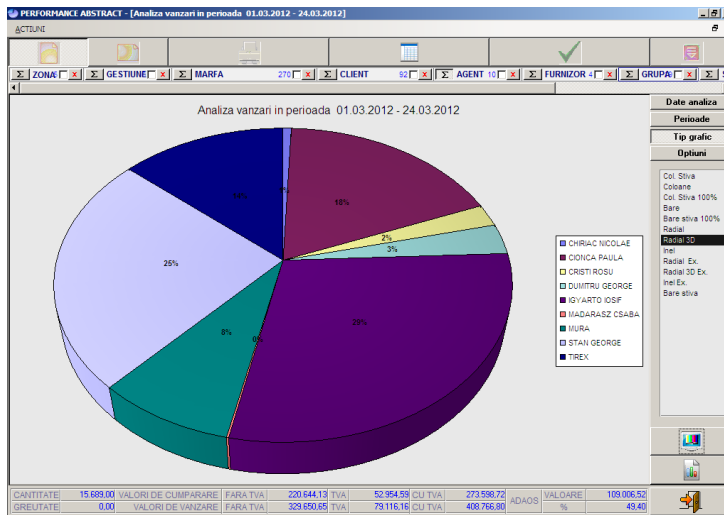


Figure 11. Analysis of sales made.

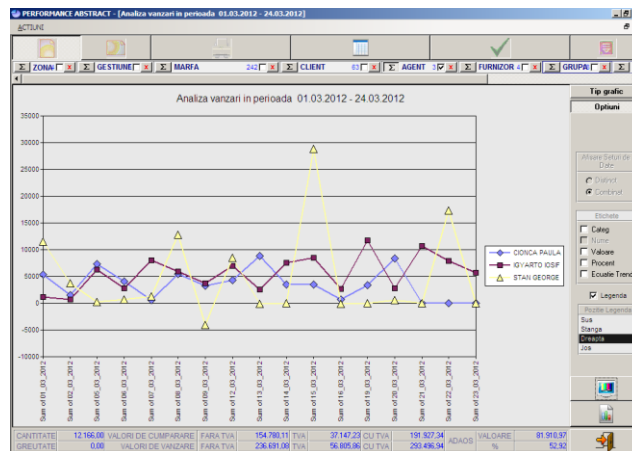


Figure 12. Analysis of dynamic.

## CONCLUSIONS

The simulated enterprise, a tool of practical training in the field of information process, which uses procedures and means identical to those within real companies, can serve to assess how an IT system responds to the business environment. This tool proves its efficiency especially in the case of complex business environments as well as those dominated by uncertainty.

The implementation of IT systems for the business environment in virtual enterprises can have the following consequences: evaluating the performances of the simulated enterprise and improving them; exercising their development strategies, this can be done quickly, at low costs and without risks; analysis of a large number of variants; deeper understanding of the business environment.

## LITERATURE

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