

OBASTACLES TO USING BUSINESS SIMULATION GAMES IN CROATIAN BUSSINESS EDUCATION INSTITUTIONS

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Abstract: *Simulation games improve learning, since they actively involve students in the educational process, encourage them to apply their theoretical knowledge and facilitate their understanding of business. Use of simulation games in education is increasing every year, as the games enable students to prepare better for situations that real world organizations face. The goal of the paper is to define the obstacles to using simulation games in Croatian Business Education Institutions, as discussed in the Technology Acceptance Model Framework.*

Key words: *simulation game, business education, Technology Acceptance Model*

1. INTRODUCTION

Simulation games have proven to be a very valuable tool in education, since decisions made during the game allow immediate analysis and consequently represent high quality groundwork for the future business environment (Gilgeous & D'Cruz, 1996). The goal of simulation games is to introduce a participant into a virtual world where decisions can be made without risk. Simulation games allow students to actively participate in the educational process. During a simulation game, students acquire the skill of decision making and that of team or company leadership, thus the students learn-by-doing (Aldrich, 2005).

The goal of the paper is to define and discuss the obstacles to using simulation games in the educational process in Croatia. A questionnaire was conducted among professors at faculties of economics in order to identify these obstacles.

Faculties of economics play an important role in the education of students, as they are expected to provide more opportunities to combine the theoretical knowledge with the analytical skills that will prove useful in the future. Managers believe that educational institutions concentrate more on theoretical issues than on the practical application of different skills. Improving the educational process should be a daily basis concern since, along the theoretical knowledge, it is important to acquire skills in leadership, communication and decision making, because managers are looking for business students who have these skills (Owens Swift & Cook, 2004).

Research on the application of simulation games is being conducted around the world and show that the usage of simulation games is increasing, although it still remains on a relatively low level (Faria & Wellington, 2004). Whereas numerous studies aim to show advantages to using simulation games, at the same time certain obstacles in applying these in education are being pointed out. A major obstacle, apart from financial investment, time and organizational constraints (Lunce, 2006) lies in the application of new technologies in teaching, which is a focus of Technology Acceptance Model (TAM) that explains the attitude of users toward simplicity and usefulness of new technologies (Di'ez & McIntosh, 2008). On the base of this founding we define expectations related with results of this research:

- Hypothesis 1: Few professors at faculties of economics in Croatia use simulation games (less than 50%);
- Hypothesis 2: The Technology Acceptance Model can be used

for explaining application of simulation games in business education.

2. RESEARCH METHODOLOGY AND SAMPLE CHARACTERISTICS

The goal of this research is to identify obstacles to using simulation games at the Faculties of Economics in Croatia. A research questionnaire on the use of simulation games was conducted at these faculties from January to May 2009 (Zoroja, 2009).

The questionnaire was based on different published studies that tackle the usage of simulation games and on few in-depth pre-interviews. The details was then adapted to the Croatian educational standard. The questionnaire was sent via e-mail to 64 people at different faculties of economics (five faculties). Respondents were selected according to their research interests by random choice method. Out of the total of 64 questionnaires, 50 respondents participated in the research, which forms a response rate of 78%.

According to academic rank, distribution of respondents is as follows: Masters of Science (40%), Associate Professors (16%), Full Professors (16%), Assistant Professors (18%), Research Assistants (4%) and Doctors of Science (6%). Processing of the questionnaire was conducted by methods and techniques of descriptive statistics and logistic regression with the SPSS statistical software ver. 17.

3. EMPIRICAL RESULTS

In the research respondents were requested to state whether they apply simulation games in teaching or not. According to the results a small number of respondents (24%) use simulation games in class.

Divided by gender, the percentages of men (26%) and women (22%) who use simulation games are nearly the same.

The respondents were divided into three groups according to their rank: assistants (50%), assistants professors (18%) and professors (32%). The following are included in the category of assistants: research assistants, masters and doctors of science, whereas professors consider both full professors and associate professors.

Considering their academic rank, and taking into consideration only those respondents who use simulation games, the percentage of assistant professors and professors is higher than that of assistants.

Characteristics of respondents		Using simulation games (%)	Not using simulation games (%)
Gender	Male	26	74
	Female	22	78
Total		24	76
Academic rank	Assistants	20	80
	Assistant professors	22	78
	Professors	31	69

Tab. 1. Characteristics of respondents

Obstacles to Using Simulation Games		Using Simulation Games (%)	Not Using Simulation Games (%)
Lack of funds	Perceived as obstacle	28	72
	Not perceived as obstacle	20	80
Lack of understanding from the administration	Perceived as obstacle	20	80
	Not perceived as obstacle	25	75
Considered necessary in education	Perceived as obstacle	0	100
	Not perceived as obstacle	25	75
Instructions on ways of usage	Perceived as obstacle	0	100
	Not perceived as obstacle	27	73
Difficulty in adapting to new technologies	Perceived as obstacle	19	81
	Not perceived as obstacle	30	70
Difficulty in changing classical teaching methods	Perceived as obstacle	21	79
	Not perceived as obstacle	25	75
Organizational limits	Perceived as obstacle	33	67
	Not perceived as obstacle	23	77

Tab. 2. Obstacles to using simulation games

Table 2 shows obstacles to using simulation games in class. Divided by *usage* of simulation games, the respondents were supposed to state what according to their point of view represents an obstacle and what does not. Most of respondents that use simulation games stated that the organizational limits (30%) and lack of funds (28%) are the biggest obstacles, whereas the respondents that do not use simulation games stated that the difficulty in adapting to new technologies (81%) is the biggest obstacle. Starting to use simulation games during class would mean changing the way a lecture is classically performed as well as adapting to new technologies. In order to further clarify the listed obstacles in using simulation games, the logistic regression model was designed where the usage of simulation games at the faculties of economics is the dependent variable.

	B	Sig.
Academic rank (assistants)		0,097919*
Academic rank (assistant professors)	2,34783	0,035404**
Academic rank (professors)	2,247493	0,10552
Gender (male)	-1,7835	0,078441*
Lack of funds	0,921471	0,455602
Lack of understanding from the administration	2,155657	0,127865
Considered necessary in education	24,60943	0,999202
Instructions on ways of usage	23,73563	0,998671
Difficulty in adapting to new technologies	2,600595	0,039171*
Difficulty in changing classical teaching methods	-0,09734	0,921967
Organizational limits	2,426559	0,187432
Constant	-2,58674	0,115458

Tab. 3. Results of logistic regression model (usage of simulation games – dependent variable)

** statistically significant at 1% level

* statistically significant at 5% level

Results are presented in the Table 3, where estimated values for

logistic regression parameters are presented with p-values in the parenthesis. The data fit the model rather well and parameter (difficulty in adapting to new technologies) is significant at 5% level. Also, gender (male) and academic rank (assistants and assistant professors) are significant at 5% and 1% respectively.

4. DISCUSSION

The results showed that most respondents (76%) do not use simulation games in class. The biggest obstacle for the respondents who do not use simulation games is the lack of knowledge of how to use them, and because of that they believe that simulation games are not necessary in education.

Another major obstacle stated by both the respondents that use the simulation games and those who do not is the lack of understanding by the university administration as well as the lack of funding. Such findings support our first hypothesis that few professors in Croatian business education use simulation games (less than 50%).

The research also indicates difficulties in changing classical teaching methods and in adapting to new technologies. This can be explained within the Technology Acceptance Model (TAM) that specifies the user's attitude towards simplicity and usefulness in applying new technologies. Consequently it confirms the other hypothesis according to which Technology Acceptance Model can be used for explaining application of simulation games in business education. Other factors, measured according to percentages of professors that use simulation games in business education, were not identified as relevant.

Results of this research confirm the results obtained in previously conducted researches (Lean et al, 2006) where obstacles to applying simulation games were also tackled and are the following: the time necessary for lecturers to prepare for a simulation game, a wrong choice of a simulation game, or a choice of topic that does not suit the interest of participants, lack of knowledge about the possibility to use simulation games, financial and technical problems.

Further studies are planned in the future to highlight the benefits of using simulation games. Furthermore, in-depth interviews with professors that use simulation games result in a choice of possible routes that may increase awareness of the advantages in using simulation games at the faculties of economics in Croatia.

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