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**An Empirical Research on Students' Perceptions
Regarding Marketing Simulations**

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Abstract

In higher education institutions, simulation-based learning is an effective tool for strategic marketing courses. Considering the expanding use of digitalization in recent years, marketing simulations based on computers have become an increasingly important tool for students and teachers. This paper aims to identify and analyse the advantages and disadvantages of marketing simulations from the students' perceptions. To achieve these objectives, the author collected the data through a quantitative research method by using a questionnaire. The results of this study show that the main advantages are: active learning, rapid results, learning through play, and making decisions based on results, while the main disadvantages are: difficulties in coordinating with team members, need a high time consumption for understanding the simulator, the complexity of the simulator, and the difficulty in making decisions. The paper also improves the literature on the field of marketing simulations.

Keywords: marketing simulations, students, empirical research.

JEL Classification: M30, M31, M39.

1. Introduction

The topic of marketing simulations in higher education institutions is interesting from three points of view. First, in today's context, teachers must use innovative pedagogical methods to stimulate students to actively participate in the educational process. Thus, the idea of playing a game can be attractive to students and brings the nature of marketing decision making to life (Gundala, Singh, 2016). Second, simulation-based learning is an effective tool for strategic marketing courses (Wolfe, 1997; Vaidyanathan, Rochford, 1998), because it can increase teamwork skills, and promote competitive and analytical thinking (Grădinaru et al., 2021;

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StratX Simulations, 2023). Third, in their role as labour force providers, higher education institutions must take into account that companies want to hire students who have “real-world” skills besides a university degree (Scott, Frontczak, 1996; Mariani, 1997).

Over more than fifty years of research on simulations and their effectiveness in marketing education have originated conflicting findings (Kotler, Schultz, 1970; Faria, Nielsen, 1976; Lambert, 1980; Larreche, 1987; Whiteley, Faria, 1989; Tonks, Wan, 1991; Hinck, 2000; Tonks, 2002; Brooks et al., 2007; Hicnk, Ahmed, 2015). Some authors stated that business simulation games do offer a meaningful educational experience (Faria et al., 2009), while others remark that business simulations are not better than traditional pedagogical methods (Randel et al., 1992).

The paper is made up of six major sections. Following this brief introduction, a problem statement is provided. The third section is dedicated to the research questions, while the fourth presents the research methods. This is followed in the fifth section by the main findings. The article ends with conclusions and suggestions for future research.

2. Problem Statement

The problem of perceived advantages and disadvantages of marketing simulations is a topic of interest in the scientific literature. In a research on 45 students, van Esch et al. (2020) state that online marketing simulations positively influence students’ academic outcomes. These results are congruent with those stated by Randel et al. (1992) in their work. Fripp (1997) presented that some of the advantages of business simulations are the following: provide students’ motivation, encourage teamwork, and stimulate users to experiment with alternatives without fear of failure, which may pose significant threats if tested during real circumstances. Otherwise, some of the main disadvantages are: student learning is dominated by traditional teaching methods (Storrs, Inderbitzin, 2006), and problems caused by the complexity of real business processes, the informal nature of tasks, and customers’ different perceptions of the process (Grikštaitė, 2008).

In Romania, the COVID-19 pandemic has generated radical transformations in the education system, forcing teachers and students to adapt to a new digital environment (Ionescu et al., 2020). Moreover, there are studies that emphasise that higher education institutions should focus mainly on the following dimensions: economic, technological, social, and human (Catană et al., 2021). This context might be an opportunity to use some modern pedagogical tools in marketing courses.

This research will contribute to the deepening knowledge of the student’s perceptions regarding the advantages and disadvantages of marketing simulations.

3. Research Questions

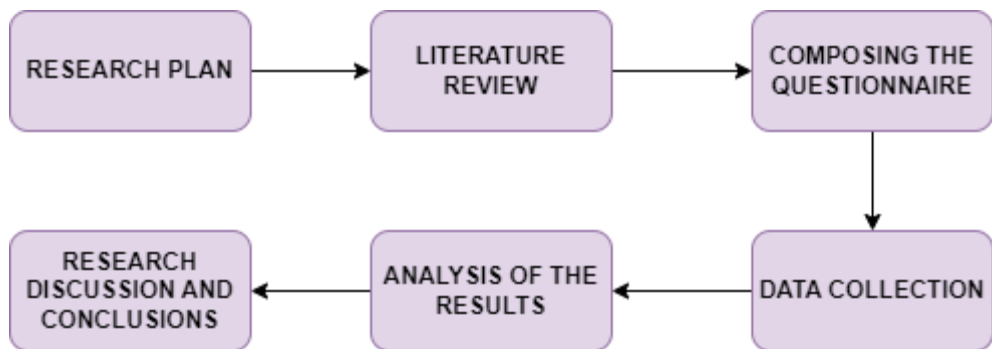
Starting from the previously presented aspects, the author stated the following two research objectives:

- *Objective 1 (O1)*: To identify and analyse some of the perceived advantages of the marketing simulations.
- *Objective 2 (O2)*: To identify and analyse some of the perceived disadvantages of the marketing simulations.

4. Research Methods

To achieve the aim of the paper, the author developed a scientific research methodology that includes six stages (Figure 1). First, the author planned the scientific research. Second, he searched for secondary data (e.g., scientific articles, books, reports, etc.) from different fields (e.g., business games, marketing, psychology) through desk research. The author searches for key researchers' work from his perspective, using the following keywords: simulations, marketing simulations, business simulations, students, perceived advantages, and perceived disadvantages. In this paper, the information was selected from the following electronic databases: Web of Science, Springer, Sage, and Google Scholar. Then the outcomes were organised, listed, and analysed.

Figure 1. Research Methodology



Source: Author.

Third, the author composes the questionnaire and chose the university program of business administration specialisation within the Faculty of Business and Administration, University of Bucharest, due to the following reasons:

- In the first semester of the 2022-2023 academic year, the students from the 3rd year of study completed the course entitled “Marketing Simulations”. In this course, Markstrat was employed, one of the most used marketing simulators in higher education (Catană et al., 2022).
- The size of the target population, including only students, is a relatively small one (Table 1). So, the author looks at the sample as the whole population.

Table 1. Number of students and gender within the 3rd year of study within the business administration specialisation

Number of students	Gender	
	Female	Male
159	84 (52.83 %)	75 (47.17 %)

Source: Author.

Fourth, in order to check the research hypothesis, the author used a quantitative research method, through an online questionnaire. Before sending the questionnaire in order to collect the data, the author carried on 7 in-depth interviews with students to identify the main advantages and disadvantages. The questionnaire contains 17 questions. A 5-point level Likert scale (where 2 = strongly agree, and -2 = strongly disagree) was used to measure the multi-item factors. No personal data was collected through the questionnaire. The fieldwork research was conducted between 19 and 31 of January 2023 and the author did not send any reminders to students. Then, the online collected data were organised and systematised. A total of 132 questionnaires were validated by students (27 out of 159 sent incomplete responses or did not respond). Thus, the response rate was 83.02 %. Most respondents were female (57.6 %), which is in conformity with the gender structure of the whole population.

Finally, the author analysed the results, and wrote the article, along with the conclusions and future research directions.

5. Findings

The students were invited to respond to the following questions: “What is your opinion about the following advantages” and “What is your opinion about the following disadvantages?”. These questions are a 5-point Likert scale (where 2 = strongly agree, and -2 = strongly disagree). Then, the points were averaged for each variable and ordered in a descending order.

In the case of perceived advantages of the marketing simulations, the results of the research revealed that the main advantages are (Table 2): active learning (1.24), rapid results (1.22), learning through play (1.17), and making decisions based on results (1.13).

As Gundala said in his work, active learning represents an important perceived advantage for students (Gundala, 2016). Moreover, learning through play is another relevant advantage specific to simulation games. Also, in marketing, making decisions based on results may consist of a better understanding of the product characteristics, customer segments, distribution channels, and marketing mix components (Catană, Toma, 2022).

Table 2. Perceived advantages of the Marketing Simulations

Advantage	Rating
Practical applicability	0.99
Competition with other colleagues	0.73
Rapid results	1.22
Teamwork	0.81

Advantage	Rating
Learning through play	1.17
Active learning	1.24
Overview of economic situations	1.07
Challenge	1.08
Making decisions based on results	1.13
Improve communication with colleagues	0.77
Improve communication with the teacher	1.05
The opportunity to develop myself	0.98
Carrying out various activities	0.93
I can apply acquired knowledge in other areas (at work, in other projects, etc.)	0.92

Source: Author.

The main perceived disadvantages are (Table 3): difficulties in coordinating with team members (0.1), need a high time consumption for understanding the simulator (0.04), the complexity of the simulator (-0.03), and the difficulty in making decisions (-0.07).

Table 3. Perceived disadvantages of the Marketing Simulations

Disadvantage	Rating
Insufficient time to make decisions	-0.31
Simulations have nothing to do with reality	-0.42
Need a high time consumption for understanding the simulator	0.04
Little interaction with the teaching staff	-0.61
The difficulty in making decisions	-0.07
Difficulty working in a team	-0.08
Dramatic changes in results from one round to another in Markstrat	-0.04
Little guidance from the teaching staff	-0.57
Difficulties in coordinating with team members	0.1
Lack of a very clear feedback	-0.48
The complexity of the simulator	-0.03

Source: Author.

Even though other authors identified and presented a relatively small number of disadvantages (Wellington et al., 2016; Skjelbred, Daus, 2022), our research determined new ones and tailored these results to the case of Romanian business administration specialisation' students.

Difficulties in coordinating with team members constitute an important perceived disadvantage for students, similar to the results of other studies (Cosse et al., 1999). However, the disadvantages regarding the need for high time consumption for understanding the simulator and the complexity of the simulator are in contradiction with the facts presented by the owner of the Markstrat simulator (StratX Simulations, 2023).

6. Conclusions

In higher education institutions, simulation-based learning is an effective tool for strategic marketing courses. Considering the expanding use of digitalisation in recent years, marketing simulations based on computers have become an increasingly important tool for students and teachers. This paper identified and analysed some of the advantages and disadvantages of marketing simulations from the students' perceptions. Moreover, the paper also improves the literature on the field of marketing simulations.

From a theoretical perspective, this research brings valuable new input to the expansion of the scientific literature on marketing simulations. In this regard, it presents some of the perceived advantages and disadvantages of the marketing simulations.

From a practical point of view, the marketing simulations field should take into account the perspectives of one of the most important stakeholders, the students. The paper identifies and analyses 14 advantages and 11 disadvantages of the marketing simulations.

Concerning future lines of research, it might be relevant to study some correlations between different variables (e.g., the involvement in the course, the level of knowledge of marketing concepts, the students' personality, etc.) and the perceived advantages and disadvantages of marketing simulations. Since this study has been based on some of the perceived advantages and disadvantages of marketing simulations, future research should be conducted to identify and analyse others. Another limitation of our study is the size and the structure of the population, as there is representative only for Business Administration specialisation within the Faculty of Business and Administration from the University of Bucharest. In future studies, a larger and more representative population should be analysed.

In conclusion, there is a need for other studies in the field of marketing simulations, in general, and in the field of simulation games, particularly. This should be sustained by increasing the interest in stimulating students to actively participate in the educational process.

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