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Personality Traits and Outcomes in a Simulated Marketing Environment

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Abstract
As a key component of business education, marketing simulations aim to link theoretical knowledge with practical application, enabling students and marketing professionals to familiarize themselves with the marketing operations of a company. The study focusses on the impact of personality traits on achieving performance in a marketing simulation game. The research employs a quantitative approach, using online questionnaires distributed to the entire population of an undergraduate business administration program at a state university in Bucharest. The authors used SPSS statistical software, version 23, to process the data. The results suggest that as students become more actively involved in their teams and demonstrate greater interest in team activities, the likelihood of successfully achieving the set objectives slightly increases. In addition, a lack of trust and a sense of displeasure among team members can significantly hinder overall performance. These findings provide theoretical and practical implications for stakeholders involved in the educational process.

Keywords: Simulated environment, education, emotional state, personality, team decision.

JEL classification: M31.

Introduction

In the context of modern education and the increasing demand for experiential learning, gamification in academic courses is a topic of interest in business schools. This educational approach aims to improve student participation, determination, and educational results by integrating elements of the game into the curriculum. In this context, simulation games provide a dynamic environment in which students can apply theoretical knowledge to real-world business situations.

A study conducted by Faria et al. (2004) highlighted that more than 64% of faculty members from the United States of America were using games with a focus on marketing. Furthermore, between 2008 and 2017, Google organized the Google Online Marketing Challenge (GOMC), an online competition targeted at university students (GOMAC, 2018). The size of the business simulation games was USD 2.5 billion in 2024 and is projected to reach USD 6.7 billion by 2033 (Verified Market Reports, 2025).

Given the growing scale and complexity of marketing simulations, the development of teamwork skills becomes foundational for reaching success today, as working in teams provides both learning and social benefits (Thanasi-Boçe, 2020). In addition, the use of simulations has proven to be valuable for further developing teamwork-related skills. Other researchers (Pérez et al., 2013) point out that the use of business simulations stimulates teamwork knowledge, skills, and abilities of participants compared to participants who base their learning only on study techniques. Activities performed in teams do enable participants to develop and practice some specific skills that are valuable for the real-work environment and cherished by employers, amongst which some notable ones are communication, critical thinking, or problem solving (Vos and Brennan, 2010).). Working within a simulation game often implies varied group behaviors and actions such as bonding sessions or caring for others' wellbeing, activities that strengthen teamwork (Gray, 2011). Another facet of this game shows its reality-based aspects, as teamwork elements are part of the simulation operation (Kear and Bown, 2015). Online business simulations are also important for integrating authentic team-based learning into business curriculum and it presents advantages such as the encouragement of cooperation, idea exchange, and the sharing of experiences (Lohmann et al., 2019).

The paper contains five main sections. Following a brief introduction, the next section offers a review of the relevant literature, outlining the theoretical foundations of the marketing simulations concept and examining how personality traits influence performance in a marketing simulation game. The third section details the research methodology, while the fourth presents the main findings along with a discussion. Finally, the fifth section draws conclusions, offers suggestions for future research, and provides some closing remarks.

1. Literature review

The scientific literature on marketing simulations highlights that they play a pivotal role in the education of students and professionals in the field. These simulations provide hands-on experience, allowing participants to bridge the gap between theoretical knowledge and practical application (Thakur, 2023; Catană et al., 2022). By replicating real-world marketing challenges, simulations cultivate decision-making skills in a controlled environment and promote a deeper understanding of market dynamics, encompassing consumer behavior, competition, and external factors (Harve, 2023).). In addition, marketing simulations emphasize customer-centric approaches, ethical decision making, and budgeting skills (Capsim, 2024). Additionally, marketing simulations encourage global perspective, cross-functional collaboration, and continuous improvement, making them a comprehensive and invaluable tool for enhancing the multifaceted skills required in the modern marketing landscape (Table 1).

Table 1. Advantages and Disadvantages of Marketing Simulations

Advantages	Disadvantages
Stimulating technology familiarization (Nulsen et al., 1994).	Artificial environment (Gawel et al., 2022)
Application of Theory in a New Digital Form (Gundala and Singh, 2016).	Time constraints (Catană, 2023)
Adaptability (MPS Interactive, 2024)	Dependence on qualified professionals/ instructors

	(Gillentine and Schultz, 2001)
Performance measurement (Salas et al., 2008).	Lack of real-world consequences (Farrell, 2020).
Team Collaboration (Thompson, 2018)	Challenges in converting simulated scenarios into reality (Jennings, 2000)
Improvements in the decision-making process (Vos, 2014)	Potential high costs of using marketing simulations (Vos and Brennan, 2010)
Enables the evaluation of alternative marketing strategies (Gupta et al., 2010)	Time and effort consuming (Gillentine and Schulz, 2001)
Foresight abilities (Gillentine and Schulz, 2001)	Dependence on simulation quality (Hurrell, 2024).
Actively engages participants in the learning curve and experience (Vos and Brennan, 2010).	Potential lack of realism (Trapp, 1989)
Strengthening acquired information and building new knowledge and skills (Campbell and Campbell, 2008).	
Enables the evaluation of alternative marketing strategies (Gupta et al., 2010).	

Source: author's work

Related to teamwork, the size of the team is another relevant factor that could impact the way a marketing simulation is run, its success, and the outcome related to satisfaction of the participants. Studies (Cossé et al., 1999) have shown that for a situation in which teams can be comprised of two to four students with unequal number of participants per team, larger teams tend to have a slight advantage over smaller number teams. A relevant conclusion to be drawn is that teams should be equal in size and teams of two could be disregarded.

Considering that the authors tested how personality traits influence performance in Markstrat, a strategic marketing simulation game, the independent variable that measures performance is the Share Price Index (SPI). It takes into account several indicators including net contribution generated, product market share, the ability to grow the organization's revenues, and the quality of projects successfully completed (Larréché and Gatignon, 2020, p.1). Starting from the above-mentioned facts, the authors proposed the following hypotheses.

Hypothesis 1 (H1). *The level of participation of students in team decisions affects their results in the business simulation environment.*
Hypothesis 2 (H2). *Students' emotional state during the game has impact on the effectiveness in the business simulation environment.*
Hypothesis 3 (H3). *The personality of the students shapes how well they perform in the simulation environment.*

2. Research Methodology

A quantitative research approach was chosen. In this regard, we developed a questionnaire to test the hypothesis mentioned above. The questionnaire consisted of 17 items measured on the Likert scale and sociodemographic variables.

Furthermore, the authors selected the target audience as students from a state university in Bucharest. The size of the targeted population, which included only students, allowed the use of comprehensive exploratory and descriptive research methods. In this respect, considering its relatively small size, the authors looked at the sample as the whole population. The respondents were males and females, as no one declared being non-binary. The data was collected in January 2024. The authors used SPSS statistical software, version 23, to process the data. For the mentioned hypotheses, the authors analyzed the values of the Pearson coefficients. Using Evans's (1996) approach, the values of the Pearson coefficients were evaluated in order to interpret the correlations: very weak correlations are defined as having values less than 0.2, weak correlations as having values between 0.2 and 0.4, moderate

correlations as having values between 0.4 and 0.6, strong correlations as having values between 0.6 and 0.8, and very strong correlations as having values greater than 0.8.

3. Results and discussion

First, the authors wanted to test whether the level of participation of the students in team decisions influences their SPI score (Table 2).

Table 2. Correlations between the SPI score and the degree of participation of the students in the decisions of their teams

SPI	**Pearson Correlation**	**1**	**0.224****
	Sig. (2-tailed)		**0.003**
	N	**170**	**170**
The level of participation in team decisions	Pearson's correlation	0.224**	1
	Sig. (2-tailed)	0.003	
	N	170	170

**. Correlation is significant at the 0.01 level (2-tailed).

Therefore, there is a weak positive correlation between the two variables ($r=0.224$, $p<0.01$), suggesting that as students become more actively involved in their teams and demonstrate greater interest in team activities, the probability of successfully achieving the set objectives increases slightly. Although the correlation is not strong, it still points to a meaningful connection between engagement and performance. This implies that fostering student involvement in collaborative settings may contribute, even modestly, to improved outcomes. One possible explanation for this correlation is that students who take ownership of team decisions are more likely to feel responsible for the final results, putting in more effort and aligning better with team goals. In addition, their interest in the process can stimulate more effective communication and coordination, both of which are essential in simulation environments that replicate real-world marketing contexts.

Additionally, we conducted an analysis of the correlation between SPI and the emotional state of the student during the game (Table 3).

Table 3. Correlation between the SPI score and the feelings of the students during the game

	SPI Pearson	***Correlation Sig. (2-tailed)***
SPI	*1*	
Trust	*0.159**	*0.039*
Ambition	*0.196**	*0.010*
Courage	*0.016*	*0.0835*
Will to succeed	*0.179**	*0.019*
Indifference	*-0.141*	*0.067*
Passion	*-0.99*	*0.82*
Lack of trust	*-0.213***	*0.005*
Fear	*-0.178**	*0.020*
Uncertainty	*-0.173**	*0.024*
Doubt	*-0.159**	*0.038*
Pleasure	*0.140*	*0.069*
Displeasure	*-0.207***	*0.007*

**. The correlation is significant at the 0.05 level (2-tailed).*

***. The correlation is significant at the 0.01 level (2-tailed).*

A lack of trust ($r=-0.213$, $p<0.01$) and a sense of displeasure ($r=-0.207$, $p<0.01$) among team members can significantly hinder overall performance, particularly in collaborative

environments such as marketing simulations. When individuals do not trust one another, they are less likely to communicate openly, share ideas, or delegate tasks effectively, all essential components of successful teamwork. Feelings of dissatisfaction, arising from either personal conflicts or poor team interactions, may significantly undermine both motivation and engagement. Under such conditions, teams often struggle to coordinate efforts, make strategic decisions, or adapt to challenges, ultimately leading to suboptimal outcomes. Therefore, trust and team cohesion are not only beneficial, but necessary to achieve high performance in team-based business simulations.

Regarding their personalities and the SPI score (Table 4), an analysis of the Pearson correlation coefficient revealed a statistically significant, although weak, positive relationship between the SPI score and the self-assessed ability of the students to delegate effectively ($r=0.174$, $p<0.05$).). This finding suggests that individuals who perceive themselves as good at delegation tasks tend to achieve better performance, which may reflect stronger team role preferences or greater alignment with collaborative behaviors valued in simulation-based learning. Although the correlation is modest, it indicates that the perception of being able to delegate, a key competence for management duties, could contribute to a more effective engagement in team tasks. Delegation often involves trust, communication, and the ability to recognize others' strengths, all of which are critical in complex team-based environments such as working in a team within marketing simulations. However, the weak strength of the correlation also highlights that self-perceived delegation skills alone do not account for much of the variation in SPI scores. Other personality traits, such as bravery or creativity, can also play a significant role.

Table 4. Correlations between the SPI score and the personality of the students

	SPI Pearson	**Correlation Sig. (2-tailed)**
SPI	**1**	
Grown-up	-0.023	0.764
Confident	0.081	0.292
Good Leader	0.040	0.602
I know how to delegate well.	0.174*	0.023
I know how to work under pressure.	0.049	0.528
Brave	-0.170*	0.027
Creative	-0.0192*	0.012
Imaginative	-0.058	0.454
Analytica	0.0.31	0.685
Extrovert	-0.046	0.547
Introvert	-0.143	0.064
Enthusiastic	-0.051	0.506
I have negotiation skills	-0.143	0.064
Undecided	-0.051	0.506
Pragmatic	-0.016	0.832
Flexible	0.035	0.652
Inflexible	0.103	0.180
Organizing	0.019	0.805

Note : *. Correlation is significant at the 0.05 level (2-tailed).

Conclusions

From a practical point of view, the study offers valuable information for students who may consider success factors to improve performance in marketing simulation games. By identifying important personality traits and teamwork dynamics, the research equips students

with actionable knowledge that can enhance their effectiveness in simulation environments. This practical guidance is especially beneficial for preparing students for real-world marketing contexts, where similar skills and insights are crucial for success in competitive team-based scenarios. The article highlights the idea that there is a meaningful connection between team engagement and performance.

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