Student Experiences of the Use of a Marketing Simulation Game

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Abstract

While a substantial amount of research has been conducted into the use of simulation games in business and marketing education, little of this has focused on the student experience. In this project we undertake a comparative analysis of student experiences of the use of the same marketing simulation ('The Marketing Game!') at two universities in the UK. The overall purpose of the study is to understand better how students perceive and respond to simulation games, in order to make more effective use of simulations in the curriculum. The design of the study enables us to analyse the comparative responses of different categories of students (different demographic categories, and other categories thought to be relevant including prior educational qualifications and work experience), thus providing advice to marketing educators on the likely responses to simulation games of different groups of students within a diverse student body.

Key words: Marketing education; business simulation; marketing games

Track: Marketing Education

Introduction

In the project described here we investigate undergraduate student experiences of the use of a marketing simulation game ('The Marketing Game!'). This abstract is submitted as a working paper to the Academy of Marketing conference 2008. When the original working paper was written for the conference we were still at the data gathering stage, but we have subsequently completed the data gathering and analysis and will have the full results to present at the conference. The purpose of this paper is to explain the background, rationale, research objectives and research methods for the project. The remainder of this introductory section is used to explain the rationale for the work, which emerges out of a belief that active learning techniques must play an increasing role in marketing education, and that simulation games are an effective and engaging approach to active learning. In the following section, we examine prior studies of simulation games, with a focus on their use in marketing education specifically. The subsequent section details the research objectives and the research methods employed in the present study. In the final section of the abstract we tentatively consider what the implications of the study might be for marketing educators.

Marketing educators have long accepted that they cannot rely solely on didactic methods; the nature of the subject necessitates that, in addition to addressing a body of knowledge through lectures and reading, students must engage in active learning (Wright, Bitner and Zeithaml, 1994; Smith and Van Doren, 2004). Several different pedagogic techniques are harnessed for this purpose, including historical case studies, live case studies (where students develop the case studies themselves), real-world research and consultancy projects, in-basket exercises, role playing, and educational drama (Daly, 2001; Kennedy, Lawton and Walker, 2001; Baruch, 2006, Pearson, Barnes and Onken, 2006). The simulation game is a widely used active learning technique. The characteristics of simulation games include a simulated competitive environment in which rival companies make periodic decisions; the decisions provide the inputs to a software package that produces management information (such as profit & loss statements and analyses of sales patterns) which provides the basis for the next round of decision-making. What differentiates the simulation game from most other active learning techniques is that by its very nature it mimics certain aspects of the business world that are otherwise very difficult to bring to the classroom, notably working to deadlines, often in teams, to make concrete decisions under competitive conditions, and then having to live with the consequences of those decisions.

The foci for our research are: first, the affective response of students to marketing simulations and how this influences student involvement and learning; second, variations between categories of students (for example, demographic categories, or between those with and without work experience) in their response to simulation games; and, third, how these factors affect the appropriate integration of simulation games into the marketing curriculum for a diverse student body.

Prior research into the use of business and marketing simulation games

Business simulation games have been in use in higher education for at least 50 years, with the first documented use at the University of Washington in 1957 (Faria, 2006).

By 1998, up to 97.5% of all accredited business universities in the United States were using business games as a learning tool. Marketing simulation games are particularly popular and Faria and Wellington (2004) found that 64.1% of 1,085 faculty members surveyed in American Universities were using games with a focus on marketing. In conjunction with the rise in use came a proliferation of research into business games which can be categorised into four main themes: the educational value of simulation games; the relative merit of simulation games compared with other learning methods; the external and internal validity of business games; and how best to implement and use them. Some research has also been conducted into the student experience with games, although this has been more limited. The principal foci of our study were student perceptions of the educational value of the simulation game, and student affective response to the game; in the remainder of this section we briefly review prior research concerning these aspects of marketing simulation games.

Research into the educational value of games suggests that they give participants a "valid representation of real world issues facing managers" (Wolfe and Roberts, 1993, p22) including enhanced skills in strategy formulation, analysis of multiple variables, integration of a range of marketing concepts and tools, manipulating financial concepts, problem-solving, communication and team-work (Keys and Wolfe, 1990; Gopinath and Sawyer, 1999; Jennings, 2001; Zantow, Knowlton and Sharp 2005; Faria, 2006). Other studies have investigated the value of games in improving student outcomes. Faria (2001) reported on 79 comparisons between the use of simulations and other teaching methods including cases, readings, and lectures. End of class exams demonstrated that students who had engaged in the simulation performed better on average than those who had been taught using other methods. Drea, Tripp and Stuenkel (2005) found a statistically significant difference in performance on post-game assessment between those who had participated in a marketing game and those who made up the control group. Of the eight administrations of the experiment, the researchers found consistent evidence of a positive impact on student learning. Cook and Swift (2006) drew similar conclusions in a study linked to learning outcomes on a sales management simulation. The researchers were able to demonstrate high correlations between statements such as the game "improved analytical skills", "improved problem solving", "helped learn concepts", "applied what was learned in class", and "taught fundamentals". In comparison with learning from the textbook, participants perceived the simulation to be considerably more effective in "teaching course concepts, promoting the development of high level skill sets, and providing an overall positive educational experience".

There is evidence that simulation games can lead to deep learning and an enjoyable learning experience for students. Much research has reported on the positive emotions that students experience during simulation games (Coleman, 1966, Brenenstuhl 1975; Orbach, 1979, Szafran & Mandolini, Bredemeier & Greenblat, 1981) and research into the advantages of business games compared to other educational methods indicates greater levels of student enjoyment and commitment than with case studies, action learning projects, lectures or readings (Low, 1980; Malik and Howard,1996; Jennings, 2001). Fripp (1994) argued that students find simulations to be both stimulating and enjoyable experiences and that this enhances their learning. In their research into why people use business games, Gilgeous and D'Cruz (1996) found that keeping participants motivated and interested was a key reason and that games that are best at encouraging motivation are those that are deemed by students to be both

interesting and "fun". Furthermore, effective use of simulation games can lead to positive behavioural changes, such as enhancing students ability to get organised, adapt to new tasks, resolve conflicts and work effectively in groups/teams (King, (1997), Certo & Newgren, 1977, Teach & Govahi, 1988). In terms of behavioural adaptations, Solomon (1993) found that simulations can also heighten self-awareness and allow students to examine their own behaviour, particularly when working within a group.

Research method

The overall purpose of the study is to understand better how students perceive and respond to simulation games, in order to make more effective use of simulations in the curriculum. An important proposition to be investigated is that students generally have a positive affective response to simulation games, and that this primes them to respond well cognitively. Hence, the enjoyable, competitive atmosphere of the game provides a strong motivation for students to learn about both specific marketing topics (notably consumer behaviour and target marketing, in TMG!) and about general business matters (notably profit & loss analysis, and forecasting). The observations of the co-researchers have been that while most students have a positive affective response to simulation games, a minority of students dislikes simulations, and the project will enable us to investigate the reasons for this, and whether those who respond negatively share certain characteristics (for example, demographic or prior educational experience).

Specific objectives concern the differential responses of different categories of students to simulation games. We hypothesise that there may be differences in response between different demographic groups (male/female, ethnic background, and so on), between those with more or less employment experience, between those with different prior educational experiences (for example, traditional or vocational school-leaving qualifications), and between those from different cultural backgrounds.

The data reported in this paper were gathered at two post-1992 universities in the UK. The data gathering instrument was a self-completed questionnaire distributed in class to cohorts of third year marketing students at the two universities who had recently finished a module in marketing strategy on which 'TMG!' had been used. The questionnaire asks students who have played 'TMG!' to rate the learning value of simulations in relation to other learning methods, and measures affective and cognitive responses to playing the game. A sample size of 137 was achieved; the demographic characteristics of the sample are shown in Table 1.

Table 1: Respondent demographics

		Frequency	Percentage
Gender (n=137)	Male	76	56
	Female	61	44
Age (n=137)	20-21	51	37
	22-23	63	46
	24 or older	23	17
Ethnic origin (n=136)	White	50	37
	Asian or Asian British	35	26
	Black or Black British	33	24
	Other	18	13

Initial and expected outcomes from the research project

Simulation games are not an undiscovered educational technique. Nevertheless, we believe that the potential educational contribution of marketing simulation games has been far from fully exploited. In particular, from our own practice we have observed that this is one of the most effective tools for engaging students actively in the learning experience. Many of the students who play marketing simulation games become absorbed in the game, determined to improve their team's performance, and realise quickly that in order to achieve good performance they need to understand and apply important marketing principles. The preliminary analysis of the data from this study tends to validate these intuitions. The respondents reported that they enjoyed participating in the game (mean score 8 on a scale from 1 [did not enjoy] to 10 [enjoyed greatly]), and believed that they had learnt a great deal from taking part. Two areas in which respondents felt that they had benefited strongly were in terms of business analysis (understanding and applying marketing concepts) and business skills (such as team-working and report writing).

Of particular concern is the use of simulation games with an increasingly diverse population of students in the UK. The once homogeneous UK higher education body of students has become increasingly heterogeneous, partly reflecting the increasing diversity of UK society in general, and partly reflecting government policy to widen access to higher education. It is important for marketing educators to understand how different categories of student are likely to respond to marketing simulation games. It is unlikely that the differences between student categories can be understood intuitively. The following are examples of the type of question, faced by marketing educators working with a diverse student body, on which this project will cast light.

- Are mature students with work experience more likely to dismiss simulation games as 'not the real thing', or (alternatively) to find simulation games highly engaging because they particularly appreciate the opportunity to 'try things out' in a safe environment?
- Does cultural background influence student response to marketing simulations, and if so, how?
- Are there differences between students with more 'traditional' school qualifications and more 'vocational' school qualifications in their response to marketing simulations?

The preliminary analysis of our data suggests that there were few differences between student categories in terms of their enjoyment of, and their perceptions of learning from, the 'TMG!'. This suggests that marketing educators can confidently use simulation games such as 'TMG!' with diverse student groups. We would emphasise, however, that an important limitation of this study is that it focuses only on student perceptions and has made no attempt to measure student learning objectively. The evidence is strong that our respondents felt that they had enjoyed the experience and believed that they had learned a great deal, but no attempt was made in this study to corroborate the student perceptions of the learning effectiveness of the game. That remains an interesting challenge for future research.

References

Baruch, Y. (2006). "Role-play Teaching: Acting in the Classroom", *Management Learning*, 37(1): 43-61

Brenenstuhl, D.V. (1975). "Cognitive vs Affective Gaines in Computer Simulations", *Simulation and Games*, 6: 303-311

Certo, S. & Newgren (1977) Interpersonal skill development, *New Horizons in Simulation Games and Experiential Learning*, 4, 72-81

Coleman, J.S. (1966). "In defence of games", *American Behavioural Scientist* 10: 3-4

Cook, R. & Owens-Swift, C. (2006) "The Pedagogical Efficacy of a Sales Management Simulation", *Marketing Education Review* 16(3): 37-46

Daly, S.P. (2001). "Student-Operated Internet Businesses: True Experiential Learning in Entrepreneurship and Retail Management", *Journal of Marketing Education*, 23(3): 204-215

Doyle, D. & Brown, F.W. (2000). "Using a business simulation to teach applied skills – the benefits and the challenges of using student teams in multiple countries", *Journal of European Industrial Training*, 24(6): 330-336

Drea, J.T., Tripp, C., & Stuenkel, K (2005)."An Assessment of the Effectiveness of an In-Class Game on Marketing Student's Perceptions and Learning Outcomes", *Marketing Education Review* 15(1): 25-33

Faria, A.J. (1998). "Business Simulation Games: An Update", *Simulation and Gaming* 29(3): 295

Faria, A.J (2001). "The changing nature of business simulation gaming research: A brief history", *Simulation & Gaming* 32(1): 97-110

Faria, A.J (2006). "History, Current Usage, and Learning from Marketing Simulation Games: A Detailed Literature Review", *Proceedings of the Marketing Management Association*, 138-139

Faria, A.J. & Wellington, W.J. (2004). "A survey of simulation game users, former-users, and never-users", *Simulation and Gaming*, 35(2): 178-207

Faria, A.J., Wellington, W.J., Hutchison, D., & Whiteley, T.R. (2003). "Achieving course learning objectives through the use of business simulation games", *Proceedings of the Marketing Management Association*, p67.

Faria, A.J. & Wellington, W.J. (2005). "Validating Business Gaming: Business Conformity with PIMS findings", *Simulation and Gaming*, 36(2): 259-273

Fripp, J. (1994). "Why Use Business Simulations", *Executive Development*, 7(1), 29-32

Gilgeous, V. & D'Cruz, M. (1996). "A study of business and management games", *Management Development Review*, 9(1): 32-39.

Gopinath, C. & Sawyer, J.E. (1999). "Exploring the learning from an enterprise simulation", *Journal of Management Development*, 18(5): 477-489.

Jennings, D. (2002). "Strategic management: an evaluation of the use of three learning methods", *Journal of Management Development*, 21(9): 655-665

Kennedy, E.J., Lawton, L. & Walker, E. (2001). "The Case for Using Live Cases: Shifting the Paradigm in Marketing Education, *Journal of Marketing Education*, 23(2): 145-151

Keys, B. & Wolfe, J. (1990). "The Role of Management Games and Simulations in Education and Research", *Journal of Management*, 16(2): 307-336

King, A. (1977). "Experiential exercises on values, attitudes and conflict resolution", *New Horizons in Simulation Games and Experiential Learning*, 4, 353-360

Low, James T. (1980). "Guidelines for the Use of Business Simulation Games", *Journal of Marketing Education*, 2(3): 30 -37.

Malik, D. & Howard, B. (1996). "How do we know where we're going if we don't know where we've been: A review of business simulation research", *Developments in Business Simulation and Experiential Exercises*, 23: 49-53

Mason, C.H. & Perreault, W.D. (2001). *The Marketing Game*, McGraw-Hill: New York

Orbach, E. (1979). "Simulation Games and Motivation for Learning", *Simulation and Games*, 10: 3-40

Pearson, M.M., Barnes, J.W. & Onken, M.H. (2006). "Development of a Computerized In-Basket Exercise for the Classroom: A Sales Management Example", *Journal of Marketing Education*, 28(3): 227-236

Solomon, C.M. (1993). "Simulation training builds teams through experience", *Personnel Journal*, 72(6):100-107

Smith, L.W. & Van Doren, D.C. (2004). "The Reality-Based Learning Method: A Simple Method for Keeping Teaching Activities Relevant and Effective", *Journal of Marketing Education*, 26(1): 66-74

Szafran, R.F. & Mandolini, A.F. (1980). "Student Evaluation of a Simulation Game", *Teaching Sociology*, 8: 21-37

Teach, R. & Govani, G. (1988). "Simulation game performance: an examination of the effect of time pressure, method of team formation, and formal planning", *Developments in Business Simulation & Experiential Learning*, 21:83-85

Wolfe, J. & Roberts, C.R. (1993). "A Further Study of the External Validity of Business Games: Five-Year Peer Group Indicators", *Simulation and Gaming* 24(1): 21-33

Wright, L.K., Bitner, M.J. & Zeithaml, V.A. (1994). "Paradigm Shifts in Business Education: Using Active Learning to Deliver Services Marketing Content", *Journal of Marketing Education*, 16(3): 5-19

Zantow, K., Knowlton, D.S. & Sharp, D. (2005). "More Fun and Games: Reconsidering the virtues of strategic management simulations", *Academy of Management Learning* and *Education*, 4(4): 451-458