EXPERIMENTAL ONLINE CASE STUDY FOR A BREAKTHROUGH IN STUDENT ENGAGEMENT: DESCRIPTION AND RESULTS

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ABSTRACT

A new type of case study, called the real-time case (RTC), was produced in the fall of 2001 and distributed via the Internet to business classes at four universities in the U.S. and Canada. The real-time case presented the story of one company's growth and development throughout a 14-week semester. A case writer stationed full-time at the subject company published case installments weekly on the Web, allowing students to view the company-building process as it happened. The 14-week coverage of RTC enabled students to study the subject company in unprecedented depth and detail. RTC's real-time interactivity allowed students to share their analyses and best thinking with the company leadership during the company's decision-making process.

A major objective in producing the case was to heighten student engagement with the case material. To evaluate whether this objective was achieved, a survey was conducted with the participating classes. Results from the survey showed a high degree of engagement, plus many other benefits from the new type of case study.

KEY WORDS
Case studies, real-time case, live cases, learning outcomes

I.   INTRODUCTION

During Fall 2001, a consortium of four business schools participated in a new type of business case study called the Real-Time Case (RTC). Here is the course description that students encountered at the four universities:

> As you read this, the managers of a new high-tech company, Optasite Inc., are striving to achieve the entrepreneurial dream. On a password-protected website you will follow that company, and see their progress week by week. But you will do more than just watch. You will be actively engaged with the company, analyzing its problems, and making input. You will be participating in the first in-depth, real-time case study.

> Unlike traditional case studies, this real-time case will dig deeply into one company during the entire semester. At this moment, a case writer is stationed full-time at the case company. Each week the writer will provide us with the information we need to analyze a particular problem or question faced by the company. But our goal is not analysis for its own sake. Instead, we want to go beyond critiquing, and make valuable recommendations to the company. The company is counting on us to perform, and we want to deliver.

Because the real-time case covered one company for an entire semester, students became immersed in substantially more detail and complexity than is possible in a traditional case study. Because the case company was studied in real-time (a "live" case), there was a sense of urgency and immediacy that transformed the classroom dialog from pure analysis to personal involvement. Because the case data unfolded week by week, and was received by the students and the professor at the same time, the student-professor relationship became a problem-solving partnership.

The traditional case method has changed little in over a hundred years. The Internet presents an opportunity to revamp the case method. In our view, the case method is the best tool that business educators have at their disposal. But there are shortcomings. The traditional case is produced over a 12–18 month period. A case hot off the press is rarely less than a year and a half old. Meanwhile, companies and technologies change so fast that a new case is often outdated when it arrives in students' hands. Furthermore, because the Internet provides students easy access to business news and information, the "cliffhanger" aspect that is essential to the drama of many cases is lost. A real-time case (sometimes referred to as a "live" case) avoids this problem.

An additional limitation of the case method is the brief nature of individual cases. In ten or so pages it is not possible to provide students with the detail and background necessary for a well-informed decision analysis. The Internet, harnessed in the production of a full-semester case in real time, can address this problem.

Another motivation for efforts to improve the case method is that students' expectations are changing. More students have work experience and expect a practical, realistic curriculum. Our media-saturated world allows them to be connected with the world in every aspect of their lives; why not business education? This question led us to wonder, could studying cases in real-time lead to more engaged students and better learning outcomes?

II. DESCRIPTION OF THE REAL-TIME CASE STUDY

A. Participating Students

The real-time case method was used for both MBA students and undergrad business majors during the fall 2001 semester. A total of 109 students in classes at four universities experienced the real-time case. This paper reports the results from a survey of those students. The 109 students came from an undergraduate course in entrepreneurship at UMass, an on-campus MBA class at UMass, and an exclusively online course at UMass. Also included were on-campus undergrad classes at Worcester Polytechnic Institute and Florida Atlantic University, and an MBA class at the University of New Brunswick (Canada).

B. Major Educational Objectives

The real-time case method presumes the value of the traditional case method and shares its objectives in

terms of teaching content and teaching analytical skills. But the real-time case goes a bit farther and aims to do the following: 1) increase student engagement with the material, 2) increase student motivation to study the material, 3) make the material more memorable, and 4) provide students with a greater appreciation of the complexity and interdisciplinary nature of business decisions.

C. Innovative and Unique Features

To the best of our knowledge, and after a thorough review of the literature, no one has ever attempted to do a full-semester case study on a single company that is 1) done in real-time, and 2) written with the same level of quality and in the same format as conventional cases. Prior to the Internet there would be no practical way to do such a project. Nor would the project be possible without placing a case writer inside the case company full-time, almost like an anthropologist. And because we followed the company's activities *as they were happening,* we were able to utilize every imaginable technology to connect students to the case company, including video conferences, phone conferences, online chat, threaded discussions, and so on.

D. Content

The real-time case focused on a wide array of classic business topics such as marketing strategy, venture capital, human resource management, product definition, and competitive analysis. The topics were driven by the actual issues facing our case company, which was (and is) a high-tech startup.

E. Organization

The basic organization of the course was to deliver to students every Saturday at 6 p.m. a new installment of the case study. Each installment addressed a new problem or issue facing the case company. During the semester, 14 such case installments were posted, all dealing with a different decision that the company needed to make. Each week students would analyze the problem at home on their own. Several days later they would come to class (physical or virtual) for a standard type of case discussion focused on finding a solution to the company's problem. Class recommendations were then forwarded to the case company via the on-site case writer. The company was free to take or leave the recommendations. Students could also post questions about the company, which the case writer would answer, providing a level of engagement and interactivity not possible in a conventional case course. Also available on the website were at least one, but usually two or three conceptual articles or book chapters that were relevant to the week's issue. A typical week's assignment might be to read a case installment about how the company should price its product. Analysis of the case reading would be done in conjunction with theoretical reading about pricing.

F. Presentation

The presentation, per se, was conventional for a case course, except that it was all on the web (no paper). The volume of material and its real-time context were unique. The real-time context made possible some unique learning opportunities. For example, the most compelling moment in the course came when a team of students who had won a competition for "best analysis of the week" reported on their prize, which was a trip to a trade show with the case company managers. It's hard to describe the feeling of student "ownership" of the case that was present in the classroom.

III. THE RESEARCH STUDY

A. Research Questions

The case developers created this new type of case study to accomplish several objectives in the classroom. First, the developers wanted to bring students to a new level of energy, engagement, and participation. By so doing, they hoped to create a course that was more appealing than courses to which students were accustomed. Second, the developers hoped to teach students lessons that were difficult to teach using conventional methods. In particular, the aim was to 1) instill in students a greater appreciation for the complexity of business decision making; 2) portray a more realistic view of business; 3) take a more interdisciplinary view of problem-solving; and 4) teach all these lessons in a way that is more memorable than the conventional case method.

G. Method

To determine whether the educational objectives were met, a number of data sources were analyzed. These sources reported include: 1) a student evaluation survey located on the case website, and 2) standard course evaluation forms at one of the four universities.

The developers plan to conduct more systematic inquiry using experimental design to evaluate the effect of future efforts to use a real-time case. Our main objective in the initial study was to assess faculty and student satisfaction.

1. Data Collection

Before presenting the results, it is necessary to explain a few important details about these data. Regarding the standard course evaluation forms completed at each university, only data from those evaluations taken at UMass were available. These data provided important insights into how the experience of students who used the real-time case compared with the previous experience of students taking the same course with the same instructor, but using the traditional case method. Data from the web-based evaluation survey was the primary means for understanding students' experiences of RTCM across all sites.

2. Instrumentation

The UMass evaluation form included student responses to both multiple-choice and open-ended questions. The evaluation instrument was the same one used in all courses at UMass, excluding online-only course offerings in continuing education. To evaluate the entrepreneurship course in which the real-time case was used, students filled out the same evaluation that was used in previous years, when traditional cases were used. Thus, the courses assessed by the evaluation form were essentially the same except for the type of case material. The response rates for the student evaluations used each year were as follows: Fall 2000 (traditional cases): 39 of 45 students responded. Fall 2001(real-time case): 37 of 41 students responded.

The student evaluation survey made available on the case website to all 109 students was completed by 50% of the students (N = 55). The survey instrument consisted of both multiple-choice and open-ended questions. It was not possible to determine which responses came from which university. The small "n" means that the results are formative. Subsequent trials will involve more students.

H. Results

In the following paragraphs, answers to questions about the learning experiences of students, relying on data both from the UMass standard course evaluation form and from the standardized online evaluation from, are presented.

1. Appeal of RTCM

Data from the UMass course evaluations indicated that the real-time case method was very appealing. On a scale of 1 (lowest) to 5 (highest), students in the on-campus MBA course indicated a mean score of 5.00 on an item rating how much the course "stimulated participation." The rating indicated that every MBA student who responded gave the course the highest possible score in the category. In the category "overall satisfaction," a score 4.90 out of 5.00 was achieved. The 5.00 score and the 4.90 score had not previously been achieved at the School of Management at UMass in the particular categories mentioned.

Of the 37 undergraduates who responded, the real-time case obtained a rating of 4.75 in the "stimulating participation" category. This was also a School of Management record for this category. The undergraduate "overall rating of this course" score was 4.25 compared to 4.00 in the previous year's course.

In analyzing results for the UMass online-only students, it is important to note that the specific questions on that course evaluation differed somewhat from the on-campus course evaluation questions. It also must be mentioned that the UMass instructor had not previously taught an entrepreneurship course to online-only students. For both these reasons, direct comparisons to previous years are not possible for the online-only students. That aside, satisfaction levels among online-only students were high, but below the level for on-campus students.

The data from the standardized online evaluation completed by 55 of the 109 students indicated that 70% of students (x = 39) "enjoyed the RTC course more than a typical business course." In addition, 46% (x = 25) indicated that they enjoyed the RTC more than their previous favorite business course (see Table 1). Finally, 22% (x = 11) reported that the course using the RTC was equal in appeal to their favorite course in their program. Additionally, 90% of students who responded recommended that their school "provide courses in the future that include a real-time case." Also, 92% recommended that RTCM be applied to business subjects other than entrepreneurship.

Other data were collected that may explain the high degree of satisfaction. In answers to an open-ended question on the UMass course evaluation form, undergraduates indicated that the course's use of a case occurring in real time was what they "liked most about this course." In addition, 70% (x = 39) of students responding to the standardized evaluation were "very positive" about the real-time nature of the course. Only 4% were negative about the real-time nature. Furthermore, 62% indicated that the in-depth nature of the case was "highly valued." Only 2% were negative about the focus on one company throughout the entire semester, while 6% were neutral.

In addition to the quantitative data from multiple-choice questions, and the qualitative data obtained in the form of adjectives, the standardized online evaluation and the standard course evaluation forms at UMass included answers to open-ended questions. All comments were made anonymously. Over 90% were characterized as positive.

2. Student Engagement and Motivation

The data relevant to engagement and motivation consists solely of responses to open-ended questions on the online evaluation survey and on the UMass course evaluation form. There was no quantitative data because there were no objective questions related to "engagement" on any of the evaluations. A focus group of MBA students at UMass was conducted, and it provided the best insights into this issue of engagement. Those results can be found by clicking on "articles" at a website devoted to the real-time case method (http://intra.som.umass.edu/theroux).

Comments by students that spoke to the issue of engagement included expressions of an attachment to the case company and the feeling that one was part of the case company. These comments came from the standardized online evaluation form.

Additional information about engagement was available in the comments solicited from the request for course improvement suggestions. Comments included suggestions for visits to the case company, more online chat, and additional phone conferences. A substantial number of comments suggested that the students were engaged and were eager to learn more about the case company.

Although not contained in any of the formal evaluation processes, the UMass instructor observed many behaviors that indicated a high level of engagement. He reported that students in his class were unusually engaged and motivated. The professor at Florida Atlantic University reported that in all his years of teaching he had never witnessed a group of students "so motivated by the material."

I. Student Appreciation of Business Complexity and More Realistic Views of Business

Data from the UMass course evaluation completed by the on-campus MBA students indicated a score of 4.90 out of 5.00 (x=11) that tied an all-time high at the school for the question, "Overall, how much do you feel you have learned?"

On the modified course evaluation completed by the online participants at UMass, students were asked the following: "Now that you have studied a real-time case, how would you assess your view of entrepreneurship?" Eighty percent said it was "more realistic than before." Only 20% said "no change."

In response to the question, "When you leave your business program, how memorable do you think lessons learned in the real-time case will be compared with other learning experiences you have had?" 76% (x = 42) said "more memorable"; 24% (x = 13) said "no difference." Ninety-two percent (x = 50) recommended that RTC be applied to a wide variety of business courses. Positive comments about the learning outnumbered negative ones by about 10 to 1.

TABLE 1. Respondents' Opinions of RTCM's Desirability Versus Other Courses (%)				
Course for Comparison	Enjoyed More	Enjoyed Same	Enjoyed Less	Uncertain
Typical business course	70	14	14	2
Previous favorite business course	46	22	30	2

IV. CONCLUSIONS AND RECOMMENDATIONS

The data indicated that the real-time case met the developers' objectives for the initial study. Students were very satisfied with their experience and highly engaged with the case material. Students reported gains in their appreciation of the complexity and interdisciplinary nature of business decision-making and also indicated that they believe that the real-time case will be memorable.

The developers must now answer the question of where real-time case method fits into university curriculum. Because a real-time case offers extended coverage of a case company and has time and space sufficient to familiarize students with all the functional areas of a company, it seems natural for it to be used in capstone courses that attempt to integrate student understanding of the functional areas. These courses might include strategy, business policy, and entrepreneurship. Other courses to be considered are those that attempt to give students a view of general management such as field studies, consulting courses, independent studies, and practicums. It might be argued that RTCM could deliver high-powered experiential learning more efficiently than field-based courses. In summary, the real-time case method offers a new learning tool that can either replace or complement the traditional case method.

V. REFERENCES

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VI. ABOUT THE AUTHORS

Jim Theroux is the Flavin Professor of Entrepreneurship at UMass-Amherst. Before becoming a professor in 1991, Dr. Theroux had a business career in the cable TV industry that began with a large national company, Time-Warner Cable. After several years at Time-Warner he went out on his own by raising $20 million of venture capital to start a new cable company in the Cleveland Ohio area. At the University of Massachusetts, Dr. Theroux is a specialist in bringing new pedagogical techniques to business education. For his experimental work in teaching inventors he was designated one of the top ten entrepreneurship educators in America by Ernst & Young and the Kauffman Foundation. In the past year he has received three national awards for the innovative nature of the real-time case concept. Theroux received his MBA at Harvard University and his doctorate in educational technology at the University of Massachusetts.

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