

Running Head: THE REAL-TIME CASE METHOD

A NEW MODEL FOR BUSINESS EDUCATION: THE REAL-TIME CASE METHOD

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Abstract

A new type of case study--one that is reported and analyzed in real-time--may present a useful evolution of the case method. This paper addresses one approach to use emerging technologies to enhance existing approaches for case analysis. It describes a new type of case study, the Real-time Case (RTC) and the method used in analyzing such cases--the Real-time Case Method (RTCM). It illustrates these concepts with examples from the first implementation of both in Fall 2001 at a small consortium of business schools in the US and Canada. Student and instructor perceptions of the merit of using the RTC and RTCM are presented. They suggest that the Real-time Case concept has merit, is enjoyable, and presents a unique offering to existing instructional practices. This paper closes by discussing the viability of using the RTC in business programs, identifying areas for future research, and proposes dialogue about the utility of this method and other case innovations.

For over one hundred years the case method has been standard practice in schools of business across the United States. That the analysis of cases is not only common but growing in popularity seems a testament to the method's established value in preparing business professionals.

Advocates of the case method in business assert that it is superior to other methods of instruction in providing students opportunities to develop both the skills and knowledge required of business professionals (Christensen & Hansen, 1987). Case methods offer students an opportunity to apply knowledge (Roberts, 2001) connect theory to practice, (Keys & Wolfe, 1988) and learn to collaborate with their peers (Erskine, Leenders, & Mauffetts-Leenders, 1981). The process of analyzing cases allows students to develop and practice reviewing information from disparate sources, differentiate between more and less useful pieces of information, and apply professional knowledge gained from other experiences to making business decisions (Christensen & Hansen, 1987).

But shortcomings are also associated with the case method. Some suggest the process oversimplifies business problems--presenting students with an unrealistic view of business (Andrews & Noel, 1986). Others criticize the type of decision-making skills students learn--suggesting that learning decision making without responsibility for the consequences teaches the wrong kind of lessons (Powell, 1954). The implementation of the method requires special skills and much time. The cases themselves are criticized for being outdated upon publication, failing to present a realistic view of business, and for being positively skewed (Bradshaw, 1996).

New technologies, the same that have altered the business environment, show great promise for revolutionizing the case method. The World Wide Web, streaming video, and a panoply of online teaching tools support the creation of both new types of cases and new

methods of analysis. This paper deals with one such effort to enhance the case method. It describes a new type of case study, the Real-time Case (RTC) and the method used in analyzing such cases--the Real-time Case Method (RTCM). It illustrates both concepts with examples from the first implementation of both in Fall 2001 at a small consortium of business schools in the US and Canada. Student and instructor perceptions of the RTC and RTCM are presented. They suggest that the Real-time Case concept has merit, is enjoyable, and presents a unique, new offering to existing instructional practices. This paper closes by discussing the viability of using the RTCM in business programs, identifying areas for future research, and proposes dialogue about the utility of this method and other case innovations.

The Real-time Case Method: A New Model for Business Education

The Real-time Case (RTC) is a new and unique type of case study that promises to build upon existing methods of using cases in the preparation of business professionals. The creation of such cases and the activities involved in their analysis are only recently feasible due to the Internet-based technologies (i.e. the Web, streamed video, document sharing) that make the inexpensive, rapid, and world-wide publication of materials possible. The concept of the RTC, conceived of and developed by Jim Theroux of the University of Massachusetts, involves the creation and instructional use of a case that is produced and analyzed in "real-time." Learning using the RTC occurs when a repertoire of activities are performed as part of the real-time case method (RTCM). Instructors teaching graduate and undergraduate level entrepreneurship courses at a small consortium of business schools in the U.S. and Canada were the first to implement a RTC during Fall 2001. Numerous case installments or "caselets," became the subject of students' case analysis during an entire academic term. The effort was supported by the Coleman Foundation, Sloan Foundation, Kauffman Foundation, and Inc. magazine.

The RTC combines attributes of traditional cases with three new attributes, namely: 1) real-time publication of case installments, 2) interactive communication with the case company, and 3) extended coverage to produce a unique instructional offering. The RTCM presumes the efficacy of traditional case methods (i.e. Socratic questioning, discussion, and role play) but builds on them-- capitalizing on the communication and information gathering possibilities afforded by the RTC's Web-based delivery system. The objectives of the RTCM deceptively simple. First it is intended to promote a high level of energy, engagement, and participation in the case analysis process--making courses more appealing. Second, it is intended to teach students lessons difficult to teach with conventional cases, namely, 1) a greater appreciation of the complexity of business decision making, 2) a more realistic view of business; and 3) a more interdisciplinary view of problem-solving.

Here, we provide an explanation of the components comprising a RTC and the activities associated with the RTCM. These components are illustrated with examples from the implementation of the Optasite, Inc. case in fall 2001.

Case company. The events and problems described in a RTCs cover events occurring in an actual company. A case company has two critical attributes. First, it is interested in being the subject of a case and second, it is willing to cooperate with case producers and share information with them. Motives for company participation vary. They might include a desire for free publicity, hopes the process might be beneficial to their success, interest in making a contribution to business education, or financial compensation. Although any company might make a suitable subject for a RTC, several characteristics make some more attractive than others. Such companies have: 1) high-growth potential, 2) business in a high-interest area (e.g. technology , transportation, etc.), and 3) venture-capital-backing. Subject companies with characteristics like

these increase the likelihood that a RTC will be interesting. Each increases the likelihood that the RTC will present ample, interesting material for publication and analysis.

In fall 2001, Optasite Inc., based in Worcester, MA, was selected meeting all of these criteria. Optasite, was and still is in the business of maintaining and optimizing the performance of cell phone systems. Though just a startup, Optasite management has the ambitious goal of being the first company to offer service to cell phone carriers nationwide. In 2001, Optasite received \$3.2 million in venture capital. When selected, Optasite's venture funding was due to run out one month after the real-time case was schedule to conclude. This meant the second round of fund-raising happened while students and instructors watched. Optasite management was committed to making the real-time case a success. They made their documents, meetings, and personnel open to the case writer.

Real-time case installments. The heart of the RTC is the case--delivered in installments. Short cases or "caselets" consisting of 4-10 written pages are distributed to students via the Web at regular intervals (weekly, bi-weekly, etc.) by the case writer. The case writer is a skilled communicator with knowledge of both business and case methods. The case writer's knowledge and ability to gain appropriate information from the case company are important. They significantly influence the sequencing and content of individual caselets, the portrayal of facts and characters, and ultimately its success as an instructional tool supporting instructors' attainment of instructional goals. Caselets describe problems faced by the company as they occur during students' analysis. The problems presented in RTC are supplemented by exhibits relating to problems (i.e. memos, transcripts of meetings, reports, etc- excluding those that might be confidential). Because such problems actually occur, the caselets and the problems they communicate in vary in number and complexity. They might present one or many problems.

Likewise, they might be simple addressing only one of the functional areas such as accounting, management, human resources or complex integrating various areas. In writing the case installment, the case writer works with the course director to make sure that case events are not over-simplified but as realistic as possible.

In fall 2001, the problem-focused case installments were written by an experienced, New York Times reporter hired to serve as the case writer with input from course director Jim Therox. The problems posed in the caselets included,

§ How should the company price its product?

§ How will the company deal with competition?

Background material. Such materials are not tied to individual caselets but rather the case as a whole. Presented in multiple media formats on the Web, supplement students' understanding of the case company and case context, these materials provide students vital information about the case company useful in case analysis such as company history, information about the industry, current marketx, company management, and past and current financials

In fall 2001, background material on the Optasite and the telecommunications industry were made available on the web at the beginning of the semester. A company history, videos illustrating the company product (e.g. a cell phone tower), links to industry web sites, and current articles about trends affecting the telecommunications industry were provided.

Video interviews with case characters. Recorded interviews with the company management are another component of a RTC. They are easily distributed on the web using Windows Media Player and RealNetwork's RealPlayer. Written transcripts may also be provided

if necessary. Such interviews allow students to develop a better understanding of the case characters while helping them gain additional factual information about the company.

In fall 2001, video interviews with the CEO, CFO, and VP of Marketing communicated facts about company developments and decisions being made. They also provided students opportunities to get a "feel" for these individuals and consider how the various personalities and leadership styles possessed by these individuals might influence the future of the company.

Technical notes. Technical notes contain a theoretical perspective to the main problems of the weekly caselets. Their intent is to aid students in connecting theory to practice by presenting relevant, reliable information that informs students' analysis.

In fall 2001, students were provided technical notes citing three articles from Harvard Business School Publishing related to pricing issues. These articles were intended to help them deal with the caselet focusing on pricing issues. Because they were provided with these notes, students were able to focus their energy on applying this theoretical information their analysis rather than identifying and locating trustworthy information about the problem.

Weekly news. This feature allows students access to emergent information about the case company that is not directly related to the weekly case installment. The nature of weekly news satisfies students' curiosity about the resolution of past case problems. It also serves as an outlet for communicating information related to other facts that may be important to understanding what is going on in the company such as, Is the CEO on vacation? Did one of the managers decide to buy a house (perhaps a sign of his confidence in the company's future)?

Components of the RTCM

Analysis of the RTC occurs in much the same manner as the analysis of a conventional case, but differs in terms of student involvement and interactivity. Here we describe this.

Real-time sharing of student recommendations with the case company. Because the RTC unfolds in real-time, students may share their knowledge, opinions, and suggested actions with the case company. Once formulated, student analyses containing these ideas, are reviewed by the case instructors and shared with the company CEO. The CEO of course, is free to take or leave these recommendations. The case writer makes his or her best effort to obtain feedback from the CEO on the quality of the students' recommendations and shares this feedback with the students.

Because input from students is received while the company is in the midst of its decision making, it often value to the case company. Because students have a personal interest in company progress, the actions it decides to take has value to the students. Students want to know whether their ideas are deemed intelligent and their actions are sensible. In many cases students feel not only intellectually connected with the case company, but emotionally connected as well.

In fall 2001, students' analyses of weekly caselets were shared via e-mail with the course director, who in turn shared them with the case company. On one occasion, a group of students whose analysis was determined "best" by the course director and Optasite CEO was rewarded with an opportunity to attend an industry trade show with the company management. On this trip, students in this group expanded on their initial contribution to the company by "scouting out" competitors and sharing information gained with the company management. This information made an impression on the company and played a key role in Optasite's strategic planning.

Use of discussion boards and chat for inquiry. These electronic forums provide support for inquiry related to the case as a whole and the individual case installments. Topics dealt with might be general and revolving around problems facing the company, or specific and relating to particular concerns that crop up in individual caselets. Students, instructors, and case characters

might all participate at different times. Communication addressing topics might be moderated by an instructor or not. Students in one class at one University might use them or they might support interactions among students from different institutions. Likewise, forums might allow students to seek information from individuals with special information about the case or expertise such as industry experts or case characters. Instructor preference and instructional goals dictate how these devices are used.

In fall 2001, discussion groups revolved around a variety of topics devised by both instructors and students. Instructors observed this method of communication provided opportunities for deliberate and thoughtful exchanges that were in some cases superior to those which occurred during class time. Online chats often broke through one of the most frustrating aspects of conventional cases--the inability to ask questions about the case company. Although managers in the case company were busy, it was feasible for one manager per week to set aside an hour to be available to students for live, Web-supported chat.

Live videoconferences with case characters. Such videoconferences allow students to gain information about the case company on their own without the intervention of the case writer. Web-supported videoconferences provide a different portrayal of the case characters than the case installments express. During fall 2001, two videoconferences were held. One with the company management, company founder, and CEO. When the CEO was later removed and a new CEO hired, students could speculate about the reason for this action based on their own knowledge of leadership dynamics.

Use of email chat, and collaboration programs. These technologies allow students to communicate with one other for the purpose of making and writing up recommendations about the "problem of the week" described in the caselets. These technologies are the sole means for

student collaboration when the RTC is used in online instructional formats. They enhance the communication for students in traditional classes by allowing easy out-of-class communication.

In fall 2001, students used the RTC in both traditional and online courses. Those who experienced the RTC in an asynchronous online course found various online tools such as threaded discussion boards and collaboration programs like NetMeeting essential their work in RTCM. All types of students benefited by posting their analyses on the web (after assignment deadlines had passed). In this way they could learn by comparing and contrasting case analyses.

Tables 1 and 2 present the characteristics of the RTC and components of the RTCM.

Table 1: Characteristics of the RTC

Case company	§ Required characteristics: Interested in being subject company, willing to share
	§ Optional characteristics: high-interest area of business, high-growth potential, venture capital backing
Real-time case installments	§ Published at regular intervals
	§ Written by the case writer
	§ Problem-focused
	§ Includes exhibits
Background material	§ Provide more information about the case as a whole
	§ Web links and other resources
Video interviews with case characters	§ Streamed on the web
	§ Provide additional information
	§ Allow students to get to know more about personalities
Technical notes	§ Provide theoretical information pertinent to analyzing cases
Weekly news	§ Provides updated information about past case installments
	§ Provides additional information for understanding the climate surrounding the company

Table 2: Components of the RTCM

Real-time sharing of student recommendations with the case company.	§ Focused on "problem-of week" in caselets
	§ Filtered through instructors to company
	§ Used or discarded at discretion of company
Use of discussion boards and chat for inquiry	§ Support communication between students

	in one institution or across multiple institutions
Live videoconferences with case characters.	§ Allow communication between instructors and students and students and the company
	§ Students get to know personalities and dynamics
Use of email chat, and collaboration programs.	§ Provide additional information for analysis and understanding of company
	§ Support online student communication
	§ Enhance traditional student communication

Issues related to use of RTC and implementation of RTCM

Although the unique characteristics of the RTC and RTCM suggest it might address some of the shortcomings of traditional cases and methods, innovation is not without its challenges. Here we describe some of those, which we think may make implementation more difficult.

Instructor skill and support. Teaching with cases is difficult--requiring that instructors have special skills and knowledge. Teaching with cases also requires a great deal of time for preparation (Christensen & Hansen, p. 40). Admittedly, these disadvantages associated with conventional cases increase when using an RTC. Instructor knowledge, talent, and time are even more crucial in the RTCM. In addition, instructors' personality traits also contribute to success.

Instructors implementing the RTC in 2001 were both talented teachers and critical thinkers. Each had special knowledge of entrepreneurship from personal experience in addition to a formal education in business. These instructors were able to "think on their feet" and what's more, they enjoyed it. The excitement of dynamic problem-solving with limited and emergent information presented a risk that made the RTCM both rewarding and enjoyable.

A well-crafted RTC includes support for instructors as they work to meet these challenges. Features can be incorporated to help address these such as: 1) instructor notes corresponding with each caselet that include a summary of the problem at hand and a list of

suggested questions, 2) an executive summary from the course director or case writer on each caselet, and 3) consulting from the course director that provides direction on how to implement the caselet in the instructor's course.

In fall 2001, instructors using RTC received technical help from the producers of course materials and one-on-one consulting with the course director. They also had opportunities to share ideas with other instructors through conference calls, email, and chat.

Instructor activities. RTC instructors decide independently how the material will fit into the total context of their courses, how much time they will devote to case analysis, and what types of activities they will teach with the RTC. Instructors make decide if students will analyze caselets individually, in small groups, large groups, or as an entire class. They also make decisions about additional readings and materials supplied to students for support in their analysis, the pacing of student analysis, and the grading of student work. The challenge to case producers then is to support instructor freedom while providing enough "just in time" support to make the experience of teaching easy, enjoyable, and rewarding.

In fall 2001, all instructors used the RTC in either graduate or undergraduate entrepreneurship courses. Although the instructional formats through which their courses were offered varied (e.g. face-to-face, online, videoconference facilitated) all decided to use the case as the basis for at least half the class activities performed. During "non-RTC time," instructors lectured or presented other material. Some was related to the real-time case installment of focus and other material responded to other instructional goals. In addition, RTC instructors suggested "technical notes" to the course director. Each instructor assured students reached some consensus about recommendations for the case company. In general, one student or one student

team was assigned each week to compose the class recommendation. How assignments relating to the RTC were graded was also left up to the discretion of individual instructors.

Confidentiality. Confidentiality is always an issue for cases. But ensuring the security of information about RTC companies is even more issue-laden. Because company information in a RTC is posted on the Web accessible to any and all who might use it-- both students and competitors alike--restricted access and electronic forms of security are a necessary precaution. But password access may not be enough to protect the case company, its employees, customers, and suppliers. The case company must know this and have the ability to censor information as it sees fit even at the expense of the case's instructional efficacy.

In fall 2001, students used passwords to access RTC materials. In addition, the course director offered to change the names of individuals and organizations mentioned in the case-- a common procedure in case writing. Optasite decided to use real names but reviewed sensitive material before putting it on the website. On occasion it was necessary to modify or omit material at the company's request. The real-time case faced most of the same issues of confidentiality that a conventional case would. Optasite Inc., like any case company, preferred to be portrayed in either a positive or neutral manner. The main method for dealing with potentially negative portrayals was to present the facts of a situation in a non-evaluative fashion.

Funding. JT reviewer three thinks this needs to be addressed. I think that the appropriate place is here. Spell out first what you conceive being the need and use of the funding. Then illustrated it with examples of where the funding for the project came from in fall 3001 and how it was used.

Evaluation and Analysis of the RTC and RTCM

In the section that follows, we present data from an evaluation of the first effort to implement the RTCM with the Optasite, Inc. case. In conducting this evaluation, our first goal was to determine whether there was enough merit in the RTCM concept to justify further implementation efforts. In determining merit, we were specifically interested in knowing whether students and instructors: 1) found the RTC concept enjoyable and interesting, 2) perceived it had value for themselves and for others, and 3) believed that the RTC and RTCM enabled some type of learning experience not offered by conventional cases.

An additional purpose for conducting this evaluation was to discover whether assumptions we had about the use of the RTC concept were correct. From the students, we wanted to discover whether they felt that using the RTC: 1) helped them develop of a more realistic understanding of business, 2) fostered an integrated view of the various functional areas of business, and 3) gain an appreciation for the complex nature of business decision making. From the instructors, we wanted to find out 1) if the RTCM is an effective instructional tool and if so, for what, 2) if using the RTCM was enjoyable for instructors, 3) if the experience of teaching with the RTCM was different from teaching with a regular case and if so, how, 4) if using an RTC offered students an experience qualitatively different from those available with textbooks and traditional cases.

Two final goals for our evaluation were to develop areas for future research and identify areas where the RTCM might be improved. In our evaluations, we wanted to provide opportunities for the students and instructors to tell us information about the RTC and RTCM that we might not be able to anticipate in our focused questions. We included several prompts about specific aspects of the RTC (i.e. its depth and real-time aspects) and "generic" open-ended comments with more general prompts as well.

Student data collection

To find out about students' perceptions of their experience with the RTC, we examined student evaluation data collected at the end of their 14-week experience with the Optasite, Inc. case from three of the four implementation sites. Data were collected from students using an form containing both multiple choice and open-ended questions. A summary of data relevant to our inquiry obtained from students is presented in Tables 3, 4, and 5. A breakdown of participants is provided in Table 4.

Table 3: Student evaluation data items 1-7.

Item	Response	N	Percent
1. Compared to a "typical" business course your have taken to date, how much did you enjoy the course using the real-time case?	a: enjoyed real-time case more		70%
	b: about the same		14%
	c: enjoyed the real-time case less		14%
	d: not sure		2%
2. Compared to the business course that previously was your favorite, how much did you enjoy the course using the real-time case?	a: enjoyed real-time (rtc) case more		46%
	b: enjoyed rtc the same as my previous favorite		22%
	c: enjoyed rtc less		30%
	d: not sure		0%
	e: no answer		2%
3. A conventional case study is much more brief than the real-time case. How much do you value the in-depth nature of the real-time case?	a: depth is highly valued		62%
	b: depth is somewhat valued		30%
	c: neutral		6%
	d: depth is somewhat negative		2%
	e: depth is very negative		0%
4. Conventional cases are historical, describing events that occurred from one to twenty years ago. How positive do you feel about the real-time aspect of this semester's case study?	a: very positive		70%
	b: somewhat positive		18%
	c: neutral		6%
	d: somewhat negative		4%
	e: very negative		0%
	f: no answer		2%
5. Would you recommend that your school provide entrepreneurship courses in the future that include a real-time case study (based on a different company each year)?	a: yes		90%
	b: no		4%
	c: not sure		6%
6. Now that you have studied the real-time case, how would you assess your view of entrepreneurship?	a: more realistic view than before		80%
	b: no change		20%
7. When you leave the business program, how memorable do you think lessons learned using the real-time case will be compared to other	a: more memorable		76%
	b: no difference		16%
	c: less memorable		8%

learning experiences you have had?.

Table 4: Student Evaluation Item 8.

8. Please write one sentence or phrase that describes your experience with the real-time case. (a sample of the illustrative responses are presented)

- § “I found the real-time case was a very useful exercise that provided a foundation for learning both the material and the web technology. The knowledge gleaned from the case study really helped foster my understanding of how hard it is to figure out the right way to go.”
- § “Helped me understand the multiple factors that make a company succeed or fail.”
- § “I was constantly comparing Optasite with my own company. We are experiencing much the same pain.”
- § “It was so interactive, and I got a more realistic view of what it means to be an entrepreneur.”
- § “The case is very much like my experience in the real world”
- § It might be interesting to divide the class into groups and let each group tackle a different problem (i.e. marketing, finance, competition) throughout the semester. This would be a way to provide the company with a more in-depth analysis of the problem, and give the group a chance to think of some longer-term solutions.”
- § “It was too much of one thing. I wish the course had dealt with different companies, not just one.”
- § “It was a positive experience, although I found that we were discussing some of the same topics week after week.”
- § “At times hard to follow, and somewhat disorganized, but I guess that’s the real world.”
- § “The company and its products were a little too hard for the average person to understand.”

Table 5: Student Evaluation Item 9.

9. Please write three adjectives that describe your experience with the real-time case

Adjectives understood to be positive	Frequency
Interesting	19
Real	6
Exciting	6
Motivating	4
Challenging	4
Educational	4
Stimulating	3
Surprising	3
Useful	3
Fun	3
Engaging	3
Eye-opening	2
Positive	2
Informative	2
Different	2
Interactive	2
Valuable	2

Other adjectives shared one time each:
 Enlightening, Thorough, Practical, Beneficial, Great, Interactive, Informative, Helpful, Fast, Extraordinary, Rewarding, Sobering, Demanding, Important, Compelling, Terrific, Active, Indescribable, Imaginative, Relevant to my future, Constantly changing, Insightful, Cutting edge, Dynamic, Fulfilling, Deep

Adjectives understood to be negative	Frequency
Difficult	4
Frustrating	3
Confusing	2

Other adjectives shared one time each:
 Scattered, A bit slow, Time-consuming, Tedious, Exhausting

The responses in the preceding tables represent the opinions of 63%, (N=55) of the students from Sites 1, 2, and 3. Of this group, 67%, (N=37) represented Site 1 (with 44%, N= 25 from Section 1, 12%, N= 6 in Section 2, and 12%, N=6 in Section 3). Sixteen percent of evaluation respondents (N=9) represented Site 2 and another 16%, (N=9) represented Site 3. Data from students at Site 4 were excluded from this report because their experience with the RTC was dramatically different than those at Sites 1, 2, and 3--lasting only 7 rather than 14 weeks. A breakdown of total participation in the RTC implementation is provided in Table 6.

Table 6: Breakdown of RTC Participants by Site

Site	Student Profile	Course duration and description
Site 1, Section 1	41 undergraduates majoring in business	14-week undergraduate course meeting face-to-face 2.5 hours once a week
Site 1, Section 2	12 graduates in full-time MBA program	14-week graduate course meeting face-to-face 2.5 hours once a week.
Site 1, Section 3	13 graduates in off-campus, part-time MBA program	14-week elective graduate course with no formal meeting time and as a result of being taught in an asynchronous format on the World Wide Web
Site 2	9 undergraduates majoring in business.	14-week elective undergraduate seminar meeting face-to-face 2.5 hours once a week.
Site 3	14 full-time students with a blend of graduate and undergraduates in various geographic locations— students had no business background but were experienced in technological fields	14-week required undergraduate course meeting via Centra videoconferencing .5 hour once per week —Part of a larger diploma program on Technology Management and Entrepreneurship

Site 4	22 students in different groups of undergraduates pursuing degrees in engineering, computer science, and information technology	Two 7- week undergraduat courses with 2 hour face-to-face meetings once per week
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Analysis of student data

In reviewing the data obtained from students, it is possible conclude that the students found there was considerable merit to the course in which the RTCM and RTC were used. The wording of items in the evaluation make it somewhat difficult to differentiate between students' feelings for their specific entrepreneurship course, the RTC, and the RTCM, but their positive feelings are supported by the adjectives students used to describe their experience with the RTC. Seventy percent, (N=38) reported they enjoyed the course using the RTC more than the "typical" course they had taken in business. Forty six percent, (N=26) reported that the course with the RTCM had become their new favorite among business courses. In addition, to these positive expressions about the course using the RTC (which site instructors believe results from using the RTC(M)). Students reported valuing different components of the RTC. Sixty two percent, (N=32) reported that they highly valued the depth of the RTC and 32%, (N=18) reported valuing RTC components but to a lesser extent. Ninety percent, (N=49) of students responding indicated feeling positive or very positive about the value of the "real-time" nature of the case. Student responses to one item seem support suspicions that students believe the RTC has merit. Ninety percent, (N=49) indicated they would recommend that courses their school offers in entrepreneurship use an RTC.

Some understanding of whether students believe the RTC and RTCM provide a unique offering to business education can be developed by considering student responses to several evaluation items. As stated previously, a majority of students reported valuing the real-time

aspects and in-depth nature of the RTC. These are features rarely found in other instructional materials used in business and therefore represent unique offerings. In addition, 76% of students using the RTC indicated the real-time case was more memorable than their other experiences in business programs. Did students think the RTC was a unique offering? That so many students agreed it was more memorable than other learning experiences and has valuable, unique features seems to suggest that it is.

Positive student feedback regarding the merit and unique attributes of the RTC and RTCM serve as the justification for future implementation of RTCM and the development of new RTC. In addition, student input provides both impetus and direction for future empirical research investigating the impact of RTC and RTCM on student learning. In future research, we will want to know when, how, and why learning with the RTC promotes student engagement, the development of decision-making skills, and an understanding of the various functional areas of business. In addition, we will want to better understand why the RTC is so memorable for students--conducting long-term studies to discover whether students find the knowledge they acquire from the RTC useful in their careers. Perhaps one of the most important goals for further study will be to determine how student learning with RTC is different from conventional cases in written format and more innovative cases that are current but still historical such as the movie "Startup.com."

Instructor Evaluation Data and Analysis

Instructor data was obtained through in-depth phone interviews lasting one and a half hours each. Interviews were conducted three months after the completion of student analysis of the RTC. All RTC instructors were asked questions revolving around four major concerns, namely: 1) Is the RTCM an effective instructional tool and if so, what for?, 2) Was using the

RTCM enjoyable for you as an instructor?, 3) Was the experience of teaching with the RTCM different from teaching with a regular case and if so, how?, 4) Did using an RTC offer students an experience qualitatively different from those available with textbooks and traditional cases? Instructor perspectives were transcribed and were examined to determine their answers to these questions. The presentation of these data and analysis are presented.

When asked to share whether they found the RTCM an effective instructional tool, all responded that it was, specifically for: 1) increasing student motivation, 2) building student-self confidence, and 3) expanding students' level of knowledge and skill related to business. Some illustrative comments follow:

- § [T]he RTCM provided a special kind of motivation--authentic motivation.
- § I think the RTC allowed the students to gain confidence from being partnered with the professor rather than being treated in the traditional student-teacher role.
- § They would go on the web . . . they'd try to find competitors . . . there were no right answers but they were digging in a controlled way and in a directed way so they could apply the experience into the real-world.

All of the instructors enjoyed using the RTC. Their comments suggest instructors felt using the RTCM was exciting, challenging, and made teaching more active. Some illustrative comments:

- § Using the RTCM keeps me close to my roots of experiencing entrepreneurship first hand—strategies, tactics, actions, hopes, heartaches.
- § I really dread going back to teaching my entrepreneurship course in the traditional way. The traditional way is like a moving sidewalk (as you would find at an airport); the real-time case is like an amusement park's scariest roller coaster: exhilarating!

§ [S]ometimes the information we were dealing with was so incomplete or so complex and/or "breaking news" changed the agenda so that you just had to be in a "pass action play." Every minute you're deciding where to throw the ball. I like working in situations like that.

Instructors reported that teaching with the RTCM was indeed different from teaching with a regular case in several ways. First, they suggested that their role as instructors were different. They were like consultants and partners than as traditional instructors and engaged in more modeling. Some illustrative comments

§ The RTC made us much more collaborative. The students and I rolled up our sleeves and tried to figure out the case together.

§ I learned along with the students. . . everyone is put on the same footing . . .there's no right answer.

§ [S]tudents thought it was neat that I didn't just tell them I had once solved problems in a business—I showed them.

§ I acted as a consultant for both the students and the company—I used my knowledge to aid both in their learning and decision-making process. I modeled for both appropriate use of knowledge for decision-making.

Instructors also agreed that the skills of instructors were stretched beyond what are normally required in teaching. Skills identified as being helpful with this aspect of RTCM teaching were problem-solving, quick-thinking, dynamic analysis, and discussion facilitation. Some illustrative comments:

§ [T]here was a need to create specific themes and structure in exploring the updates and other material provided plus facilitate discussion around a central theme. This was not always easy given the detail of the material available and the structure of the academic program.

§ [T]he preparation for the RTC also required some links to be made between the case company situation and other examples of new ventures or growth companies – this was not always easy given my relative unfamiliarity with some aspects of the US business scene e.g. taxation implications of certain actions."

All of the instructors agreed to spending more time preparing for teaching but suggested that they enjoyed the activities related to this time more than those associated with teaching with more traditional approaches.

All four faculty believed that the RTC offered an experience qualitatively different from those available with textbooks and traditional cases. One distinct difference from these approaches was that students learned that the "right answer" to problems is not always evident or identifiable to students or the case company. Students learned how decisions were made with the best information available and that many answers to one problem were viable. The RTC was also different because it enabled students to learn from negative as well as positive examples unlike traditional cases that tend to be positively skewed or neutral. As the RTC unfolded gradually while the students were watching, many mistakes or negative examples were not able to be extracted before students could see them. In most instances, these mistakes were not identifiable until later. Students were shocked to see reality and wondered (as one instructor recalled) "How can these guys be in business for a year and a half and totally not have sized up and developed their product in view of the distinctive characteristics it would have when compared with the competition?" In the Optasite case, the company made some bad decisions. One instructor described students' reactions to this saying, "I think that was a kind of a real world slap in the face for some of the students. They were like "Aw, wow! That's not like the books, that's not like this."

For faculty, the structure of planning with an RTC was fundamentally different than using traditional cases and textbooks. This presented a great challenge for them. Some illustrative comments:

- § The RTC had an uncontrollable learning agenda that was driven by what was happening in the company.
- § [O]rdinarily I start with the learning objectives of the course and then select case studies and other learning materials relevant to the objectives. With the RTC I would decide on the learning objectives after reading the caselet. This was an adjustment for me but I soon became comfortable with it and I found the approach interesting and refreshing.

Perspectives of the instructor communicated in the interviews suggest that the RTCM was an effective instructional tool, enjoyable for you as an instructor, and different from teaching with a regular case. In addition faculty believed it to be a qualitatively different from those available with textbooks and traditional cases. Many questions for further study emerged from analysis of instructors' comments including:

- § How did faculty connect analysis of the RTC to their instructional objectives?
- § How can faculty members sequence the RTC caselets with their course content?
- § What activities help business students connect theory to the case during the analysis process?
- § How can materials be created to support instructor use of the RTC?
- § In what ways can instructor skills and knowledge be highlighted and showcased by working with the RTC?
- § How can the RTC be used to encourage "expert problem-solving skills?"

Discussion

Now that it has been proven that production of the RTC is possible, a number of questions must be addressed if more wide-spread implementation is the goal. First, the best use of the RTC in the curriculum must be determined. By our definition, RTCM is a problem-focused approach to learning, rather than a mere narrative about a business. Accordingly, the case writing team's selection of the foci of the real-time case will determine how it might fit into the curriculum. Because a real-time case offers extended coverage of a case company, with time and space sufficient to familiarize students with all the functional areas of a company, it seems natural for the RTCM to be used in capstone courses that attempt to integrate students' understanding of the functional areas. Such courses might include strategy, business policy, and entrepreneurship.

Other courses that attempt to give students a view of general management include field studies, consulting courses, independent studies, and practicums. It might be argued that RTCM could deliver high-powered experiential learning far more efficiently than field-based courses. Although the RTCM would provide less direct contact between students and businesses, experience with RTC might offer students a higher quality experience than one in the field. The reasons? First, the RTC's case writer can report in more detail on the company's activities than a student could typically observe in a field experience. Second, while instructors are unable to be present during all their students' experiences in the field, they would be able to share their valuable insight on real-world events captured in the real-time case. Third, because all students analyze the same RTC, students can benefit from the perspectives their classmates share when analyzing the complex situations in the case.

Although RTCM seems especially suited for integrative/capstone courses, we believe that it could also be used as the basis for functional area courses such as marketing, finance,

operations, human resources, organizational behavior, and others. In a functional area course, the case writer's attention would be focused on the personnel in the functional area, rather than the CEO.

Second, we must deal with issues of funding and production. *Jim, I'll let you deal with this. Lewicki asked us to address the following:*

Can this be done for less than \$100,000 (perhaps mention using a business doctoral student to be the case writer and the case will be a dissertation). You used a b

One last issue to deal with is: How will faculty be rewarded for the extra effort put into teaching with RTC?

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