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Experiential Learning in a Management Information Systems Course: Simulating IT Consulting and CRM System Procurement

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EXPERIENTIAL LEARNING IN A MANAGEMENT INFORMATION SYSTEMS COURSE: SIMULATING IT CONSULTING AND CRM SYSTEM PROCUREMENT

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ABSTRACT

Educating management students in technology-based disciplines can be enhanced through experiential team projects simulating the activities employees perform in actual technology jobs. This paper describes an experiential team project the authors use in the Management Information Systems course at Boston College. The project was developed jointly by Boston College faculty and consultants from the Boston office of a major consulting firm. The project involves student teams playing the roles of IT consultants who must compete against one another to win a consulting engagement at an imaginary company. The company's business situation is communicated to students through a case study written in the format of a Request For Proposal (RFP) informing information technology (IT) vendors that the company is interested in procuring a Customer Relationship Management (CRM) system. Each student team develops a consulting proposal responding to the RFP and presents the proposal to company managers. The activities involved in identifying the company's business needs, developing a proposal, and determining which team "wins" the contract are simulated through phone calls and live meetings with company managers, who are role-played by consulting firm employees. These real-life business interactions expose students to the ever changing nature of IT, motivate them to improve their technical understanding, and challenge them to improve their communication skills through written deliverables and live business presentations. Student buy-in and response to the project is

strong and immediate since they find themselves challenged by complex, relevant business issues.

Keywords: information systems course content, team project, experiential learning

I. INTRODUCTION

> *"Our classrooms can be thought of as organizations, and, as such, provide a real time laboratory in which to illustrate, and perhaps test, most of our important disciplinary concepts."* [Fukami, 2004, p. 21]

Managers in almost every discipline today are faced with an ongoing challenge involving the planning, identification, and procurement of IT that supports the needs of marketing, operations, other functional areas, and the organization's overall strategy. Success in IT planning, procurement, and development activities requires identifying relevant business issues and understanding the human and social issues, technical abilities, and technology artifacts involved in constructing a new IT system. IT development projects often fail to achieve their intended outcomes [Keil and Robey, 2001], many times due to a lack of alignment [Luftman et al., 1999] between the systems development project and the organizational and business process impacts of the systems implementation. Yet, few courses provide business majors with the practical experiences they need [Adams and Zanzi, 2004] to develop the expertise to avoid such failures: an understanding of what can occur in project teams and how to manage project team members, how to choose technology, how to manage organizational change, and how to write and present the typical documents used to procure technology contracts [Lee et al., 1995]. Flatly stated, most courses fail to expose students to the complex, dynamic, and unstructured situations they will face when they enter the workforce [Hernández-Serrano et al., 2002].

Students often come away from the typical introductory MIS course with a basic understanding of the concepts of IT strategy and a broad knowledge of a number of IT terminologies and acronyms. Yet, due to the cost and complexity of modern corporate IT, most students in information systems (IS) never really get their hands on actual corporate IT within a classroom setting. Some schools try to overcome this shortcoming by building their programs around a specific package, for example, an ERP system [Watson and Schneider, 1999]. Yet, overall, their approach often fails to address how IT serves as a resource to support the functional needs of an organization, how the benefits can be demonstrated to managers and clients, and whether students possess the vision and interest to be successful in IT consulting or management. Without identifying the potential for their success in IT, many students choose to major in other business disciplines. Students who do not understand the service-oriented nature of IT professionals may pass by the IS major simply because they do not want to write code, when in fact much of IT work today is spent in service occupations involving analysis, design, and communication [Lee, et al., 1995].

To respond to this lack of exposure, many MIS courses require students to work on technology-related team projects. Teams can tackle larger problems than individual students can. As a result, many instructors believe their team assignments are more relevant and more like a real team project in the workplace. Team projects also are believed to help students become skilled at effectively working in teams and to learn that their contribution in the workplace will depend upon the work of others. Although designed with the best of intentions, many team assignments do not really end up as *team* projects. Instead, students often divide and conquer projects, turning in little more than independent sections bound together by a staple. Students must be trained to work as members of a team.

At Boston College, we attempted to respond to the difficulty of getting students to work as a team and to illustrate what is involved in the procurement and management of information technology by turning to an experiential learning exercise that we call the DC/BC Case Consulting

Competition[1]. Since the Spring of 2002, we used this project-based competition in the elective undergraduate MIS course. The project brings together Boston College students and faculty and consulting firm personnel during approximately ten weeks of our 15-week semester. The length and timing of deadlines are intended to keep students actively involved, moving their project forward at the fast pace of the IT consulting world. The 10-week duration of the project also gives students time to interact with the consulting professionals who are constrained by various travel schedules.

The consulting case differs from the typical team project used in most MIS courses in that our project actively involves professional consultants working in the CRM field. Students:

- receive instruction from the consultants,
- are able to interact with the firm's personnel who act in various business roles outlined in the case, and
- receive reviews and commentary by the consulting firm's advisors on the form and content of their consulting engagement proposals.

The project culminates with the student teams traveling to the consultant's downtown office where they present before the other teams and to senior managers and partners who judge which team's proposed solution is best. Immediately after the presentations, the judges provide feedback on the presentations. Students are exposed to each other's solutions, providing the opportunity to compare their results with other teams' proposals, and extending the learning experience beyond the borders of their individual teams.

During the ten-week process, students are able to identify many of the skills required for a successful career in IT and in business. They are challenged to truly work as a team, interview total strangers about the project, take direction from a distant manager, and present their ideas in front of a large audience. Ultimately, the highlight of the project for both students and the consultants mentoring them is the final presentation to the consulting firm's senior staff. Senior managers ask the teams difficult, thought-provoking questions based on their presentations. Students either sink or swim in this section of the process. It becomes evident if the whole team worked on the project or if just a few individuals contributed. In the process, students receive an opportunity to identify whether they have a talent for information technology, to learn whether they like or hate consulting work, to learn about benefits and drawbacks of effective and ineffective teamwork, and to learn to use processes and technologies enabling collaboration. Students also experience their first real "hot-seat" presentation, which helps them prepare for future IT related job interviews. A substantial number of non-IS majors register for the course specifically to take advantage of this immersive experience.

In addition to the benefits experienced in the classroom, the consultants also are able to gain from the process. The consultants involved take a great deal of pride in their student teams' work. Through their involvement in the case, the consultants are also able to test and improve their own consulting knowledge and skills in the emerging areas of the CRM practice.

ORGANIZATION OF THIS ARTICLE

This paper is organized as follows. In Section II, we review literature on experiential educational methods used in IT and development-oriented courses. Section III describes the DC/BC Case Consulting Competition, including the learning objectives, the project structure, expected student deliverables, and future directions of the project. Section IV discusses potential limitations of the

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[1] DC refers to Deloitte Consulting LLP, a subsidiary of Deloitte & Touche USA LLP. BC refers to Boston College. In keeping with academic custom for referring to firms anonymously, we use the term *consulting firm* to refer to Deloitte.

project and suggests guidelines for instructors who are considering teaching students using an experiential project. Section V presents conclusions.

II. REVIEW OF METHODS FOR EXPERIENTIAL LEARNING

One challenge of teaching an MIS course comes from the intangible nature of the information services delivered by IT-based processes. In the minds of many, IT is physical. That is, software is packaged in boxes, installed on physical computers, and used to accomplish complicated, yet concrete activities. However, the complexities associated with IT services are difficult for an instructor to demonstrate in class. The processes programmed within the software and the processes carried out on the hardware are not observable. The technology infrastructure and the process of building corporate systems are often too complex to bring into a classroom. The organizational benefits from software are abstract, highly multi-dimensional, and almost always uncertain.

Due to the size and complexity of corporate IT, many students enter and complete an MIS concentration having little exposure to information systems beyond a few hands-on exercises they perform in their classes, and if lucky, some applied experiences gathered during internships. Many never experience programming beyond simple programs designed to illustrate theoretical concepts. Many recognize the declining career opportunities for coders, and thus choose to focus on IT strategy. For students with a background in computer science and programming, the intangible nature of IT processes may not be as confusing. However, these students exhibit a different drawback often found in the IT industry, in that individuals involved in system building and coding often find it difficult to connect the system functionality with the actual business cases for IT applications [Chabrow, 2004]. The challenge for educators is to convince both types of students that they will need to understand each side of IT; the management perspective and the actual process of engineering technology. One additional challenge is to provide students with a learning environment in which they can identify whether they have the talent and interest to pursue both. As a result, CS and IS programs are beginning to integrate experiential learning into courses to simulate and thereby teach students team-based collaboration, communication skills, and interpersonal skills [Chabrow, 2004].

Instructors can use several pedagogical methods to show students how the business issues in an organization require specific information systems. In this section, we review several of these pedagogical tools: case studies and discussion learning, experiential learning, physical gaming and simulation, and collaborative learning. We also review examples from the literature on academia-industry cooperation in using these methods in the classroom. We close this section by identifying how our project adopts aspects of these pedagogical approaches, and discussing the opportunities and challenges provided by each.

CASE STUDIES AND DISCUSSION LEARNING

Over the past several decades, management education evolved from a focus on lecture-based teaching to a focus on case studies to illustrate the decision-making process. Teaching case studies involves getting students to identify with the business issues in the cases and to play the role of these decision-makers, diagnosing the problem in the organization, and suggesting a solution for that problem. Several books and articles provide information on how to write [Farhoomand, 2004; Leenders et al., 2001], learn with [Mauffette-Leenders et al., 2001; Bonoma, 1989], and teach [Erskine et al., 2003; Corey, 1996, 1998; Barnes et al., 1994; Christensen et al., 1991; Shapiro 1985, 1988] case studies. Many full-length case studies are available for MIS courses from case study vendors and abbreviated case studies are often included in popular textbooks. In addition to these case studies, many IT vendors publish case studies about their own technology that potentially can be used in a classroom discussion.

Case studies are used more extensively at the MBA level than in undergraduate courses. Some instructors believe that undergraduate students have not had the life experience to participate

fully in, and benefit from, case discussions. Some who do use cases with undergraduates use only a few cases per semester rather than build a whole course around case discussions. Most instructors assemble a case packet using purchased cases. Some, however, have assembled case libraries around a specific learning theme or industry. For example, Hernández-Serrano, et al. [2002] described their development of a case library consisting of experts' experiences with new product development. These faculty aim to assist students with problem-solving by exposing them to first-hand stories of how experts approach problems.

With the emergence of the Internet, case studies evolved from simple paper-based cases into multimedia cases that can be distributed to students on DVDs and interactive Web sites. While the demand for multimedia cases is expected to increase, the costs of producing multimedia cases are typically high and their lifespan is often short [Shinn, 2004]. Even so, multimedia cases have several advantages over paper-based cases: their ability to provide a more complete picture of the case situation, their interactivity, and the ability to use them over more than one course session. Multimedia cases may contain video clips of the decision maker, enhancing the experiential quality of the case and creating more empathy with the manager.

EXPERIENTIAL LEARNING

There are many notions of experiential learning. One involves learning undertaken within an organizational context by "students who are given a chance to acquire and apply knowledge, skills and feelings in an immediate and relevant setting" [Smith, 2001]. Kayes [2002] presented a typology that differentiates experiential learning from action approaches, cognitive approaches, and reflective approaches toward management learning. Borzak [1981, p. 9] stated that experiential learning involves a "direct encounter with the phenomena being studied rather than merely thinking about the encounter, or only considering the possibility of doing something about it." As a result, managers can develop a more holistic view of their response to the phenomenon, and end up with knowledge tending to be "largely personal and individual" [Kayes, 2002, p. 139].

One of the most influential conceptual frameworks in experiential learning is Kolb's experiential learning circle [Kolb, 1984; Kolb and Fry, 1975], which involves four stages through which experiences are translated into actionable knowledge and applied: (1) concrete experience, (2) observation and reflection, (3) forming abstract concepts, and (4) testing in new situations. Research shows that personal learning styles make individuals more comfortable with learning approaches found in certain stages of the learning circle [Kolb et al., 2000]. Gosen and Washburn [2004] review the literature on methods for evaluating experiential learning effectiveness.

The use of experiential exercises within management courses is growing. In many cases, these courses take on a learning-by-doing feel similar to on-the-job training, with academic rigor ensured by the course content. For example, Cardozo, et al. [2002] describe a year-long course used at the University of Minnesota since 1994 to teach new product development jointly to engineering students and MBA students. They note that beyond the educational benefits, the experiential courses serve as useful tools for developing external relations with companies and as talking points for conversing with deans and the broader academic community. Silvester, et al. [2002] describe what they call a market-immersion approach for teaching new product development, in which students are immersed in all of the cross-disciplinary aspects of designing and planning for production of a new product.

SIMULATION AND GAMING

Simulation and gaming are also forms of experiential learning with the experience controlled more tightly. Banks [1988, p. 3] defines simulation as "the imitation of the operation of a real-world process or system over time." Simulation involves building a model of a system, generating data representing a potential history of events in the system, and observing how the system model operates when exposed to the events. Managers can obtain insights about operating the real system from observing how the model of the system responds to the artificial event history. In

education and training, simulation can take place in both human-based and computer-based forms [Gosen and Washburn 2004]. Games are a form of simulation in which the simulated system involves multiple players acting competitively to meet an objective. Faria and Wellington [2004] review the use and perceptions about simulation gaming in business courses.

Corporations and trainers also use simulations to expose employees and managers to events that may take place within their systems. Summers [2004] evaluated the current business simulation industry and summarized the types of simulations used by businesses as computer simulations, board games, and behavioral simulations. In certain service operations, simulations are used for training employees to experience and react to dangerous or life-threatening events. For example, airlines use flight simulators to help pilots become used to flying a specific type of airplane under normal conditions and various hazardous conditions. They attempt to make the responses of pilots as appropriate as possible for situations they might some day experience when in flight. Computerized simulation-based training can also be found in military training, sociology, meteorology, ecology, and business classes [Gosen and Washburn, 2004].

Gosen and Washburn [2004] found simulation games are more commonly used in operations courses than in information systems courses. In introductory operations management courses, in-class exercises and games illustrate the nature and management of physical products and production processes. For example, Heineke and Meile [1995] compiled a book of games and exercises for teaching introductory topics in operations management. Still, Gosen and Washburn found that over 20 percent of the MIS teachers they surveyed used some form of simulation gaming. With the emergence of the Internet, some educational games are now web-based. At the University of Virginia [Shinn, 2004], Darden School students play interactive games that focus on supply chain concepts. They log onto a system simultaneously, play a role within the supply chain, and observe how their decisions affect the decision making in other parts of the supply chain. Some professors use this type of game to create teams within a course so that the teams can compete against one another.

COLLABORATIVE LEARNING

Collaborative learning involves "helping students learn by working together on substantive issues" [Bruffee, 1995, p. 13]. In collaborative learning, accountability for learning shifts from the instructor and is transformed into a collective objective of the student groups, thereby alleviating harmful learning effects of competition between individual students [Bruffee, 1995]. Bruffee [1994] suggests students learn better under collaborative approaches, but admits little research examined this issue conclusively. Collaborative learning takes on two forms. Autonomous collaborative learning involves groups identifying a problem and solving it themselves, while semi-autonomous collaborative learning involves groups solving an assigned task [Bruffee 1994]. In semi-autonomous collaborative learning an instructor plays a largely hands-off role, essentially letting students develop their own group learning process and allowing them to solve the task as they see fit [Bruffee, 1994, 1995]. In many cases, the tasks have no single correct or absolute solution. Therefore, student learning comes about through group negotiation, group government, and arrival at a group consensus to the problem. Bruffee [1994] describes roadblocks hindering successful semi-autonomous collaborative learning; these primarily result from ingrained student learning patterns and individual resistance to peer collaboration.

Collaboration and collaborative learning is common to most modern occupational contexts [Bruffee 1994, Baldwin et al., 1997]. Collaborative learning also exhibits a significant interrelationship with IT professions, pedagogy, and capabilities. Lee, et al. [1995] found that IT managers and consultants view many different aspects of collaboration to be significantly more important for future IT professionals. Several different team-based pedagogies can be used in IT courses. Silver, et al. [1995] differentiate between reactive and proactive team projects. They further divide proactive projects into "textbook cases" based on predefined company scenarios, "living cases" allowing students to analyze the business environment and interview client employees, and "action" projects in which students are "presented with a business situation and

asked what the organization should do next" [Silver, et al., p. 377]. Finally, IT can be provided to teams as a resource to support collaborative learning. Several studies have examined the effectiveness of types of IT for supporting collaborative learning [Alavi et al., 1995; Leidner and Jarvenpaa, 1995; Alavi et al., 1997; Baldwin et al., 1997; Alavi and Leidner, 2001].

INDUSTRY-ACADEMIA PARTNERSHIPS

As pedagogy moved toward experiential learning, the need for industry-academia partnerships grew. Corporate recruiters want students who are thoroughly prepared for the diverse responsibilities they will face in the modern workforce. Most notably, these expectations not only require technical skills but also problem solving and communication skills [Tanniru and Agarwal, 2002]. As an example of this ongoing development, during a recent review of Boston College's IT concentration, recruiters commented that (1) students need to come to them with some experience and comfort with business analysis, (2) students need more exposure to projects with local companies, internships, tangible classroom examples, real-world case studies, and descriptions of the technical details of emerging technologies, and (3) students need more training to develop their communication skills, including written communication, public speaking and business presentations, and interpersonal skills. These comments demonstrate the broadening of the management educator's task. Yet, while professors are charged with preparing students to deliver these outcomes, the simple reality is that there are always limits to what one professor can accomplish during a semester. An effective way to meet recruiters' specifications is for organizations to become more involved in the process of training students.

Industry-academia partnerships can be viewed as a form of service co-production. Education has always been a form of co-production [Lengnick-Hall and Sanders, 1997], since students play a role in producing learning insights that come out of a course, for example by asking questions of an instructor. By involving industry partners, service co-production takes place along another dimension. As potential employers of our students, companies are interested in whether an educational institution's student transformation process produces a pool of employable students with desirable talents. By participating in the educational process, companies can co-produce student abilities in coordination with academic faculty. Several factors can affect the quality of student and industry partner co-production, including task clarity, ability, and motivation [Lengnick-Hall and Sanders, 1997], each of which should be defined or clarified for each party by faculty when developing a partnership-based student learning experience.

The literature only recently began to document courses and projects in which organizations play a substantial role in educational delivery. Tanniru and Agarwal [2002] document a two-year program at Oakland University oriented toward teaching students the application of IT for business problem solving. Students experience multiple projects during their two years in the program. Over 40 corporate sponsors contributed more than 200 projects for students to work on. Cardozo, et al. [2002] document a new product development course in which student teams serve as external research and design groups for corporations that pay for the opportunity to participate.

EXPERIENTIAL LEARNING IN THE CASE CONSULTING COMPETITION

In designing and modifying the case consulting project, we tried to apply aspects of experiential learning pedagogy to the advantage of students. As the project progressed, we learned about the various implications that come about in experiential learning projects. Thus, before turning to the specifics of our project, we present a summary of how our team project applies the pedagogical methods reviewed above. Table 1 relates aspects of the project to the literature review in this Section, and associates with each aspect the potential benefits derived by and challenges posed to the stakeholders involved in our case consulting project. Table 1 outlines some of the insights we obtained from our project; other schools may find different insights from their own projects.

Table 1. Pedagogy-Related Benefits and Challenges for Stakeholders

	Stakeholder Benefits (B) and Challenges (C)		
	Students	**Faculty**	**Industry Partner**
Case Study and Discussion Learning			
Written as a case study in the form of an RFP	(B) Students grasp reality of case study (buy-in). (C) Students sometimes overwhelmed by depth of real-world case.	(C) No prior knowledge of material for case. (C) Lack of experience in consulting domain.	(C) How to reduce prior engagement into case/RFP?
Students use materials available to experts as a basis for their own consulting proposals	(B) Real-world relevance. (C) May feel like they are drowning in information.	(C) No prior knowledge of material for case.	(C) How to compile and reduce this material?
Expert coaches guide teams via advice and story-telling about their own experiences.	(B) Relevance. See consulting through professional eyes. (C) Difficulties contacting experts.	(B) Team of experts work with students. (C) No way to oversee interactions with experts.	(B) Love to share experiences. (C) Variability in qualities and participation of experts.
Experiential Learning			
Uses relevant setting – first year consultant responsibilities	(B) Able to talk with actual consultants.	(B) Faculty usually cannot share this via lectures, or their own experiences.	(B) Able to examine potential recruits, see how they perform under pressure.
Direct encounter with coaches and role-played managers of client company	(B) Able to explore consulting as an employment opportunity.	(B) Students get to experience how application differs from notes/lectures.	(B) Able to examine potential recruits, see how they perform under pressure.
Emotional, personal, individual learning	(C) Students are sometimes emotionally overwhelmed. Feeling of not being qualified as an IT consultant.	(B) Overcomes professor's limits on personalized delivery.	(C) Much of this is person-to-person; How to create consistency?
Opportunity for concrete experiences, reflection.	(B) Students reflect on joint accomplishments.	(C) Timing and structure of events?	(C) Timing and structure of events?
Simulation and Gaming			
Simulates the process of work that IT consultants actually live in daily	(B) Exposed to a vision of their potential future.	(B) Students get to explore how they would apply course content.	(B) Love to share what they do with students.
Multiple teams work through the	(B) Immersive team experience.	(B) Highly competitive situation	(C) How to provision resources

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same project. Each team comes up with a different, yet equally valid, outcome	(C) Potential that team might implode and fail.	forces students to work hard. (C) How to control playing field? How to keep it equitable?	for teams? (C) How to make situation fair for each team?
Game aspect in that there is only one winning team.	(B) Students realize not everyone wins in business. (C) Someone cannot win.	(B) Students work very hard on project. (B) Students learn much more course content.	(B) Identify students who work hard. (C) How to keep an even playing field?
Teams react to suggestions and actions of human actors within the simulation.	(B) Exposed to manager hierarchy within firm, consultant-client relationships.	(C) Variability of actions and reactions	(C) How to get consultants to play roles faithfully?
Collaborative Learning			
Students are allocated to teams by instructor	(B) Prevents them from picking friends. (C) How to transform a group of casual acquaintances into a performing team?	(C) How to allocate talents and shortcomings equally across teams?	
Student teams are assigned a consulting task	(B) Team does not need to identify task. (C) Not all students interested in task.	(C) Development of appropriate project tasks.	(C) Collaborative development of project tasks. (B) The developed tasks are well understood
Instructor is minimally involved in student solution of case	(B) Students accountable for outcome.	(C) Difficult not to contribute unasked-for guidance.	(B) Can identify students who work well in collaborative roles.
Industry-Academia Partnerships (Service Co-Production)			
Team project is co-produced	(B) Highly customized education experience.	(B) Deliverables are clearly defined making grading feasible (C) Design and coordination of co-production tasks.	(B) Participate in course content design and execution. (C) Guide the co-production tasks of employees.
Project tasks are defined as clearly as possible	(B) Students have better knowledge of expectations.	(C) How to describe task clearly, without making it trivial, or alluding to solution?	(B) Role players have better knowledge of expectations.
Student and industry role-player abilities are identified	(B) Students own a role in their team.	(C) Design a learning system to accommodate variety of abilities.	(B) Facilitates consistent role delivery.
Motivations are outlined for students and role players	(B) Students can work toward a goal.	(C) Outlining a feasible, desirable goal for students.	(C) Providing sufficient benefits for employees to faithfully participate.

III. DESCRIPTION OF THE PROJECT

INCEPTION OF THE PROJECT

The DC/BC Case Consulting Competition started out in a relatively informal manner. One of the authors had been an undergraduate student in the Management Information Systems course at Boston College. At the end of the course, the professor made an open-ended request for students to come back to campus after they graduate and to speak in class or become involved with mentoring their younger peers. About nine months after this request (Fall 2001), the student, who by then was working in the Boston office of the consulting firm, contacted the professor and mentioned that several Boston College alumni working at the firm were interested in mentoring undergraduate students in an IT course. The alumni noticed that other personnel were working with MBA students from another local university and decided that they wanted to do the same for undergraduate business students at their alma mater.

During the semester between the initial phone call and the first run of the project (Spring 2002), firm personnel sought and received approval for staff to participate. Approval from the consulting firm's Boston office leadership was a key factor for getting the program off the ground. The system analyst Champion in the Boston office realized the program would create an excellent opportunity for junior analysts who recently joined the firm to build their consulting skills by teaching those same skills to Boston College students. At the same time, the junior analysts would be introducing students to the firm. After obtaining approval, they assembled a small working team to design the project. The team modified existing firm training materials to make them appropriate for presentation to a college class.

A particular challenge for the consulting firm's team was arranging a schedule that would work with the Boston College students and would be flexible enough to accommodate the travel schedules of consultants. Many IT consultants travel Monday through Thursday and are at their home office on Friday. This schedule constrained large group meetings to Fridays and posed potential risks of students not being able to reach their firm contacts easily during the week. To control these risks, the project design team involved additional personnel to assure that each role on the project was double covered.

Conversely, most Boston College courses are held on Monday through Thursday and do not meet on Friday. Thus, the MIS course professor requested permission from his department chair to hold course sessions on a few Friday afternoons throughout the semester. He also solicited input from students, asking whether they were willing to participate in the project if it required Friday sessions, in return for canceling some midweek sessions. Students voted on whether they wanted to participate, and the vote was unanimously in favor.[2] The project launched during the Spring 2002 semester and has run in the MIS course each semester since.

OVERVIEW OF THE CASE CONSULTING COMPETITION

The team project was developed jointly by consulting firm personnel and Boston College faculty. The case scenario was based on a real consulting engagement. In 2002, the consulting firm was using historical documents about the engagement to train first year consultants. Since the body of material was far too large to use in an MIS class and was proprietary in nature, we disguised and condensed the information into a manageable number of documents for student teams. The consulting firm's team concentrated on developing the case study materials – an RFP, topical presentations, and sample documents – and gathering a variety of technical reports and working papers provided to students to use in their research of the topics presented in the case. Boston

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[2] In subsequent semesters this Friday class commitment was announced so that if a student could not meet on occasional Fridays, he or she should not sign up for the course.

College faculty concentrated on the structure of the project, the requirements for the project deliverables, and the grading process. The faculty collaborated with the project design team on the development of the case materials and by reviewing drafts of the RFP and the presentations.

THE CAS*E*

The case consulting competition involves student teams developing a response to a consulting Request For Proposal (RFP) for a fictitious company called Eagle Enterprises Manufacturing[3]. The case describes ongoing issues related to Sales, Customer Service, Technology and Infrastructure, Business Changes, and Project Management. The case also describes the history and culture of Eagle Enterprises, the structure of the company, and ongoing business challenges in the industry. The RFP summarizes the scope of the solution that should be prepared by student teams. The response to the RFP should include a set of recommendations for Customer Relationship Management (CRM) business processes, an IT solution that can support the CRM vision, and potential future CRM requirements of Eagle Enterprises. The RFP requests both written and electronic replies from qualified CRM system vendors.

The Class Process

The project begins during the third or fourth week of the course (after lectures are completed on introductory MIS topics) and continues through the remainder of the semester. The process of solving the case is meant to simulate the experiences of IT consultants. Students are exposed to business, technological, and social aspects in the RFP that force them to grapple not only with the IT benefits for Eagle Enterprises, but also with the many issues that managers and consultants must take into account during business process reengineering and technology procurement projects.

When the student teams receive the RFP they know little about CRM, leading to an opportunity for problem-motivated learning. Initially, many are unsure they can complete the assignment successfully given their lack of CRM training. During the course of the project, students use information contained within the RFP, collected from supplementary materials, and obtained from Eagle Enterprises managers (role-played by the consultants) to develop a proposal for a CRM plan and/or technology solution. The tasks that students accomplish are structured so that students experience the work process and deliverables of consultants in the industry.

The most common mistake students initially make is to assume that this project is like other course projects they experienced. When they make this mistake, they tend not to take a structured approach to breaking out the work across the semester, assuming they can load the work toward the end of the semester. To prevent this mistake, we designed the case to include a series of milestones students are required to perform throughout the semester. These milestones include live interviews with a "client manager" played by a consulting firm employee who offers an in-depth client perspective to the business issues highlighted in the RFP. Given the schedules of the role-players, the students must fulfill these tasks well in advance of the presentation deadline. We also saw teams try to solve the business problem without obtaining enough information from client interviews or the RFP, a mistake that real consultants can also be susceptible to in real-life. Students normally learn about this mistake early on through the active involvement with their team coach; a role played by another consulting firm participant who serves as a guide for the students as they analyze and develop deliverables for their response to the RFP. As with underestimating the work load, students also tend to under-prepare for the type of questions they might receive during the presentation phase of the project. Thus, coaches also provide guidance on questions to expect.

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[3] The Boston College mascot is an Eagle.

PROJECT OBJECTIVES

The primary objective of the project is for our undergraduate MIS majors to experience first-hand the life of an MIS consultant and consultant-like IT decision making. This objective is fairly innovative, since few courses offered at top business schools train undergraduates in consulting skills [Adams and Zanzi, 2004]. The experience makes the content from the MIS course lectures and cases more real to the students, particularly those who never worked in a substantial position in any organization. Further, it gives them a context in which to apply what they learn in MIS class.

A second objective of the project is to provide students with opportunities to interact with actual business and technology consultants who deal with the subjects we talk about in class on a daily basis. The consulting firm also viewed the case as a prime opportunity to work closely with prospective hires and as an opportunity to provide directed, hands-on training to these potential recruits. A third objective focuses on improving the students' communication and writing skills, which is academically valuable to the students on a larger scale since it applies equally to a student's coursework outside of their major.

Students gain both concrete skills and experiential takeaways during the project. Specifically:

- An experience like this project forces students to look into their textbooks and read much more closely than they would otherwise. As a result, they tend to master more material and commit much more knowledge to memory.

- They learn how to write a true-to-life response to an RFP as they strive to win work at a client. This task forces them to think more critically about the strategic reasons and operational metrics that justify an IT investment. Writing the RFP response also introduces students to the less talked-about role of a consultant, which is to sell more consulting work. This experience is especially beneficial for the students who will ultimately consume IT services or deliver IT services. They are able to observe the process first-hand in a simulated environment and to receive feedback from an audience that executes these transactions on a daily basis.

- Students learn how to present a sales pitch for IT consulting services. They also learn how to view an RFP from the management perspective, in order to develop a better understanding of what they are being told and what they're not being told.

- Students present their solution to senior managers who question them about their proposed solutions and judge which solution and presentation best satisfies the issues outlined in the RFP. Because students are questioned in the same manner that the firm's managers are questioned by clients, students are able to experience the expectations and associated pressures of presenting to a client. After the presentations are delivered and the winner is selected, the judges comment on the presentations to the class as a whole. Hearing this critique from a senior-level practitioner results in a different impact than a critique from a professor.

An important aspect of the project is the competition; only one team is chosen as the winner. Faculty typically present a Boston College-branded prize (typically Boston College coffee mugs) to each member of the winning team. However, the prizes are only secondary. The primary driver is the opportunity to present their projects to partners, managers, and Boston College alumni. The students appreciate that these senior managers are giving their time to the project, and listen intently to the managers' feedback.

STUDENTS

The course is an elective and can fulfill a requirement for the Operations and Technology Management, Information Systems, or Computer Science majors. The majority of the students are Operations and Technology Management majors, many of whom go on to careers in IT. All

of the students are full time undergraduate students; about 10% are international students. When we first ran the project in 2002, course enrollment was approximately 45 students per semester, for a peak enrollment of 90 students per year. At the time, we broke students into nine teams of five students. However, demand for every one of our IT courses decreased substantially after 2002, including the MIS course. In 2003, course enrollment across three sections totaled approximately 60 students per year. Thus, we decreased our student team size to four students each. Course enrollment in 2004 bottomed out at approximately 20 students per year across two sections, but appears to be increasing to about twice that in 2005.

TEAM FORMATION

We use a semi-structured process to form student teams of preferably four students. The natural tendency when students choose teams themselves is to pick friends or a group of students sitting nearby in class. In contrast, we explicitly suggest that students not choose team members based on these criteria. We first guide students through an informal process that identifies individual student talents. We suggest that, as much as possible, each team should possess a mixture of students who are

- concept oriented (for brainstorming and developing concepts, especially as related to business strategy),

- technology oriented (technology background, and ability to identify technologies to create information systems),

- documentation oriented (for professional document creation) and

- project management oriented (managing people, time and resources).

This mix of skills is the one that consulting firms need to bring a project to a successful conclusion.

A crucial part of the team development is the choice of a team leader, referred to as the Project Manager. The students who act as Project Manager interact directly with their team's coach and other external contacts. The Project Manager sets up group meetings with the contacts and manages group members to fulfill their individual roles. To identify potential project managers, we ask students if they managed projects or want to try project management. Typically, this is a small set of students. We allocate one Project Manager to each team. The instructor, allowing some input from project managers, then allocates students with each of the skill sets to the teams. The instructor then evaluates the overall team makeup to ensure the necessary skills are distributed among team members. Each team is then given 15 to 30 minutes to meet and get to know each other, and to exchange phone numbers and email addresses.

BOSTON COLLEGE FACULTY AND CONSULTING FIRM STAFF

During each semester, a single faculty member is assigned to all sections of the MIS course. That faculty member coordinates all activities with the consulting firm lead for the project and can modify the project as the semester progresses.

The consulting firm's personnel are a mix of analysts, consultants, managers, directors and partners. Several analysts, consultants, and managers work with Boston College faculty to develop and execute the experience. Managers and partners support the process by allocating personnel and by developing internal support for the exercise. They also judge the student proposals and presentations. During each academic year, one person takes the role of leader for the case consulting project. That individual is responsible for coordinating the speakers, scheduling meeting times, and working with the Boston College faculty to carry out the plan throughout the semester. The project lead also evaluates each employee who wants to participate, and chooses those who have the time and are able to consistently play the roles

required during the project. The total number of personnel taking part in some aspect of the project – administrators, coaches, role players, in-class presenters, and judges – typically averages 3 to 4 persons per team. In our peak enrollment semesters in 2002, nine Boston College teams and over 30 staff were involved in the project.

The firm's policies on service help to drive staff participation. The firm evaluates its employees on a number of different qualitative and quantitative attributes such as the contributions the employees make to firm activities, for which this activity counts. Consultant participation is also easy to generate because the activities are fun, and employees get to visit campus and network with colleagues whom they do not see or talk to on a regular basis.

PROJECT SCHEDULE

During the ten-week project period students meet and interact with consultants several times. The project schedule includes on-campus meetings and a final presentation at the consulting firm's Boston office. The following sections briefly describe each project activity.

First In-Class Presentation

The first presentation takes place during the third week of the semester. Prior to this presentation, we give student teams copies of the RFP, and ask the teams to read it prior to the meeting. During the first in-class meeting, several consulting firm staff members introduce themselves and discuss their educational backgrounds. They describe what IT consulting involves, what their jobs are like, and the roles present in the firm's consulting practice. Typically, one consultant presents the Eagle Enterprises RFP (Figure 1). They describe Eagle Enterprises' problems as documented in the RFP and in other material. The contents of the RFP document are presented in Figure 2. Figure 3 lists the deliverables expected at the end of the project. Figure 4 identifies the timeline for delivery and who should receive the deliverables. Appendix I also describes each of the milestones in the timeline from a past semester. Other consultants also provide overviews for students about concepts behind CRM and CRM technology. Students are then introduced to a team collaboration tool (eRoom) that helps support the group effort (Figure 5). All supporting materials for the project are stored in an eRoom, which is a web-based system for file sharing and collaborative teamwork. Each student team is assigned its own secure eRoom that they use to collaborate and distribute deliverables. By the end of the first session, student teams have the following documents:

- Eagle Enterprises "Customer Relationship Management Request for Proposal"
- A copy of an example response to an RFP written for an actual engagement
- PowerPoint presentations:
  - "Case Introduction"
  - "CRM Overview"
  - "CRM Technology Overview"
  - "Introduction to eRoom"

It is important to explain to the students how their teams should be structured and operate over the several weeks of the project. We provide a team structure (Figure 6) to give the students an idea of how consulting teams typically operate. As Figure 6 demonstrates, each team consists of several members, including one member who is chosen by the instructor to be the Project Leader. We assign each team a consultant who serves as a coach for the team and advises the team leader and team members on how to approach the problem, how to write their proposal and how to prepare their presentation. This organization simulates the hierarchy of management that a first-year consultant would typically experience at a consulting firm. We also clarify the roles and responsibilities of Eagle Enterprises role players (Figure 7). Students need explicit directions about the expected activities and the ground rules for contacting the consultants acting as coaches and as Eagle Enterprises' Sales and Marketing VPs. Without ground rules, students expect the coaches and contacts to be always available, leading to frustration when they experience the inevitable delays in returned calls or emails.
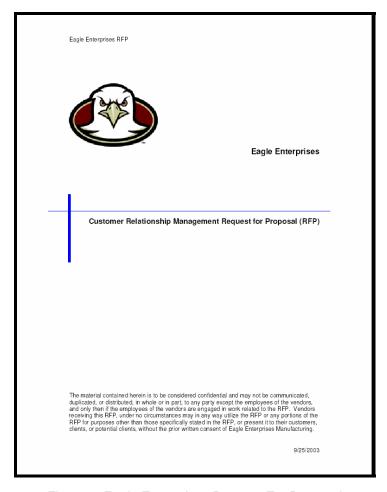
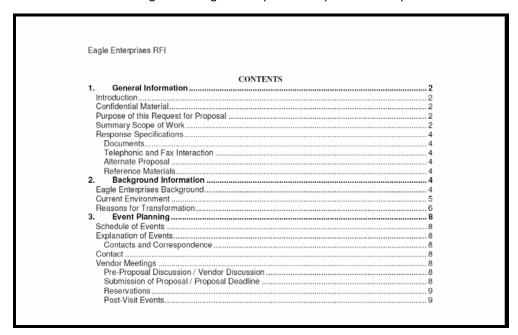Figure 1. Eagle Enterprises Request For Proposal

Figure 2. Contents of the RFP

Experiential Learning in a Management Information Systems Course: Simulating IT Consulting and CRM
System Procurement by G.R. Heim, L. Meile, J. Tease, J. Glass, S. Laher, J. Rowan, K. Comerford

Eagle Enterprises RFI

3. Event Planning

Schedule of Events

Critical dates for this RFP are as follows:

RFP Issued	September 26, 2003
Written Vendor Responses Due:	October 24, 2003
Vendor Visit	November 21, 2003
Notification of Preferred Vendor	December, 2003

Explanation of Events

Contacts and Correspondence

Contact

The primary Eagle Enterprises point of contact for this RFP and any vendor relationship issues (e.g. clarification of requirements, scheduling of visits, updates, etc...) is:

Sahal Lahar
Deloitte Consulting
slaher@dc.com
(617) 850- 2182 (Deloitte Consulting)

Vendor Meetings

The Vendor meetings and demonstrations will be held at:

Deloitte Consulting
200 Clarendon St. Ste 2000
Boston, MA 02116

Pre-Proposal Discussion / Vendor Discussion

Telephonic interactions may be requested by Vendors to seek further information or address any ambiguities prior to submission of their response to the RFP. If the RFP requires amendments, or statements of clarification arise as a result of these meetings, each will be communicated expeditiously to all Vendors.

Submission of Proposal / Proposal Deadline

Vendors must submit one copy of the completed RFP in paper form to Greg Heim and one copy in electronic form to the ERoom. Early copies will be accepted. Extensions beyond this deadline will not be permitted. Multiple proposals will not be accepted.
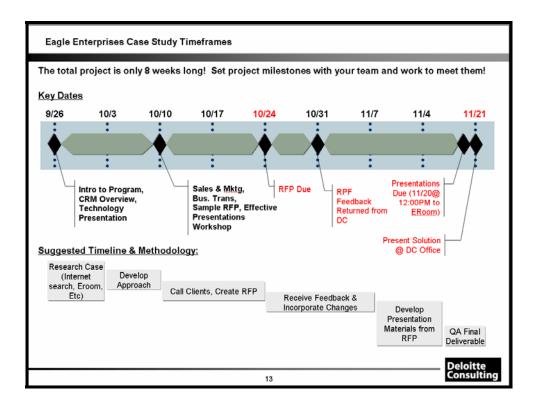
Figure 3. Sample RFP Page
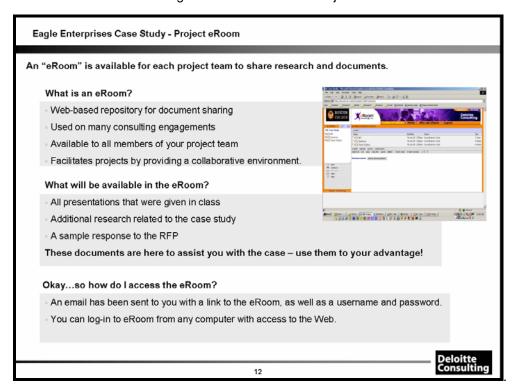
Figure 4. Timeline of the Project

Figure 5. Overview of Introduction to E-Room

Experiential Learning in a Management Information Systems Course: Simulating IT Consulting and CRM System Procurement by G.R. Heim, L. Meile, J. Tease, J. Glass, S. Laher, J. Rowan, K. Comerford
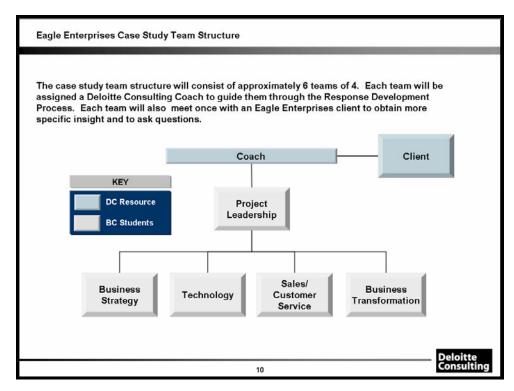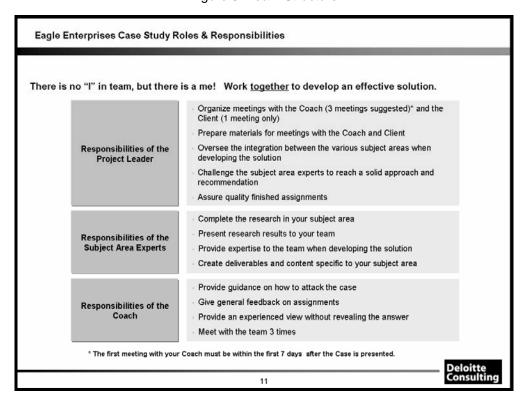
Figure 6. Team Structure

Figure 7. Team Member Responsibilities

To facilitate the client interaction portion of the case further, we also provide a brief overview of the expectations of both the students and the Eagle Enterprises client. Each team's coach

provides the students with support and advice. Between the first and second project meeting, student teams are expected to contact their coach. The coach's role is to ensure that the students address the issues outlined in the RFP correctly and appropriately and to advise the students during the deliverable development process. However, explicit directions are given to each coach that they should not provide an actual solution for the team – each team must work through the project themselves. The student teams' contacts with the consultants typically require one or more telephone conference calls involving the whole team. Since many of the coaches like to meet in person with the students, the meetings often take place on campus or at the downtown office. Coaches often make themselves available to students outside business hours as well.

After the first in-class meeting, the coaches deliver contact information for the consultants who play the role of Eagle Enterprises clients. Each team's project manager is then expected to contact the clients to set up a time for a meeting. Ideally, each team conducts a conference call or in-person meeting with each client contact by the second in-class session, typically held one or two weeks later.

Second In-Class Presentation

During this class session, consultants return to class to deliver additional presentations on business transformation, change management, how CRM affects sales force management and customer service, and how CRM can be used to support business. Finally, students are introduced to some principles for developing effective business presentations. At the end of the class session, all PowerPoint presentations covered in the session are posted in the eRoom.

Middle of Semester Team Activities

During the next several weeks, each team prepares a response to the RFP for Eagle Enterprises. During this period the coaches guide the teams, answering questions and keeping the teams on track. In early runs of the project, we realized that without a specific schedule, many teams left most of the project work until the last few weeks of the project. When this happened, it was very difficult for the Boston College students to schedule time with their assigned team coaches. The process tended to break down, resulting in poor quality student projects. This experience frustrated students who expected that their calls would be returned immediately whenever they wanted to work on the project and was also inconvenient for the consultants who were oftentimes on the road. Over time we learned to schedule student calls to consultants. We also provide explicit due-dates for each deliverable and require that teams create, critique, and revise their deliverables at least once. The addition of these mid-point milestones not only solidified the case process, but also enabled students to deliver final responses that were more professional.

Third In-Class Presentation

The third in-class presentation gives students specific instructions on what is expected in the final team presentations. This session takes place approximately two weeks prior to the final presentation day. The session was added after discovering that students were often confused about what they should be presenting on the final day to the managers who would judge them. In the project's early incarnation, we used a portion of a class session to explain basic concepts of technical writing and proposal presentation, but found this approach to be inadequate. Most undergraduate business students are comfortable making informational presentations, but many never gave a sales presentation. This third presentation helped to reduce student uncertainty and improved the quality of the final presentations.

FINAL PRESENTATION DAY

On the final day of the project, all teams travel to the consulting firm's downtown office to present their case solutions in the Boardroom. Each team does a 15- to 20-minute presentation of their proposal to a panel of judges. The team then responds to five minutes of questions from the panel. After all of the presentations are done, the judges evaluate the team presentations, choose the best solution, and present feedback to the students about what each team did well or not so

well, and why the winning team's proposal was chosen. We then debrief the students on the case competition, and allow them to ask the consultants questions about the actual engagement or any other questions they would like to ask at that time. We also ask for student feedback on the structure and workload of the case competition. Time is also made available for a short social period during which students can further meet and get to know the people involved in their case simulation experience.

PROJECT CONTENT

We provide student teams with digitized materials meant to help students further develop their understanding of the topics presented in class by the firm's employees. The material also fosters solution differentiation among the student teams. The material is a collection of publications and articles from various CRM sources that highlight key methodologies, lessons learned, and industry trends that were not covered in the class presentations but nonetheless are integral for the development of student proposals. We use the eRoom collaboration system, which is similar to Blackboard and other document management systems, to store white papers and technical reports (Word and Adobe PDF documents) that the teams can read to learn about the issues. Documents are organized by the RFP topic areas, including sales, marketing, customer service, business transformation, CRM technology and economics of CRM. Students are also encouraged to gather any additional information they feel may be useful for their proposal. They visit websites of CRM vendors and gather additional white papers and technical reports on the solutions offered by those vendors. One of the outcomes of this exercise is that students realize how many vendors exist and how difficult it can be to collect and reduce the available data into a digestible format. Students are thus exposed to the difficult process of evaluating the quality of an information source, be it a sales presentation, white paper or third party review, and how this information variability can dramatically impact the conclusions one will make.

PROJECT DELIVERABLES

During the first in-class presentation session, students are informed of the deliverables they will need to complete during the semester along with a Gantt chart schedule (Figure 4). The first deliverable is a draft of their consulting proposal, which is due four to five weeks prior to the final presentation. After students submit their first draft, several firm consultants and the Boston College instructor each read and comment on the draft. During this process, the consultants typically focus on the technology aspects of the proposal and the benefits proposed for Eagle Enterprises, while the faculty member concentrates on the strategy, metrics, and exposition style. Overall, the guiding criteria for the feedback are oriented around the eventual grading dimensions for the project, which are presented in Appendix II. As a result, students get up to four sets of comments on the technical merits of their proposals and the quality of their writing style. Students are expected to revise their proposal documents based on these comments. Typically, when students realize how much they have missed in their draft, they are motivated to make a significant effort to improve their proposal. At this point, the instructor reviews any additional drafts the teams prepare, providing the opportunity for each team to improve their proposal and their exposition significantly.

The second deliverable is their final consulting proposal report. Students are now required to submit these documents several days before the final presentations are due to give them ample time to put together and to practice their presentation. During this time, team coaches often will meet with the teams to evaluate the quality of their presentations and to ensure that each presentation conforms to the length and style of typical consulting presentations. The third deliverable is the PowerPoint presentation that student teams present to judges during the final project session.

PROJECT ADMINISTRATION

Each semester the project is administered by four people. The Boston College faculty member teaches the class and arranges the trip downtown, participant gifts, prizes for the teams, and

other administrative details. One firm consultant takes the role of the project lead that coordinates between various parties at the firm and the faculty member. A second consultant takes the role of the technical lead and controls the information technology needed to run the eRoom and the necessary documents made available to students during the semester. A third consultant is responsible for assigning and guiding the group of team coaches and Eagle Enterprises clients, to help ensure that each student team receives the same level of guidance and expertise during their interactions. Spreading the administration and rotating the administrative duties on the consultant's side also gives the consultants a greater opportunity to step into various leadership roles.

Communication and Collaboration with Student Teams

Most of the communication about the structure and content of the project is done through written documents and in-class announcements and presentations. During the first year of the project, all case study materials were distributed on a CD. While this worked fairly well, it required the student team leader for each team to burn additional CDs, or to print out everything on the CD and physically distribute it to team members. Now, we distribute all case study materials through an eRoom. eRoom (www.eroom.net) is a web-based file-sharing and project management tool used by many corporations. We use eRoom for two reasons[4]. First, the consultants already know how to use it, and thus do not need to spend time to learn additional technology. Second, allowing students to use eRoom provides them with exposure to file-sharing and project management technology, and another corporate-quality tool they can cite on their résumé.

Grading

Our grading process evolved over time. Since the project was first launched, the grading has been based partially on the ratings of the judges and feedback from the team mentors and partially on the instructor grading of the written proposals and presentations. Today we use a standardized grading process in which 50% of the grade is determined by consulting firm personnel, and 50% is determined by the Boston College instructor. Appendix II presents our present grading sheet which we use to summarize judge and faculty ratings of each team's proposal and presentation.

Because students are required to revise their proposal at least once and are given the opportunity to ask for comments from the instructor as many times as they would like, we have found most team proposals improve considerably. In a well-defined revision process, when students respond to the comments, the quality of the proposals can come out to be very high-level although the specific solution contained in each team's proposal may turn out very different.

STUDENT FEEDBACK

At the end of each semester, after completing the project, we surveyed students to find out what their experiences were during the project. Typically, we asked them to answer the following three questions:

- What did you feel that you learned during the case study simulation, and what did you feel was the most beneficial aspect of the case study simulation? Did you enjoy the experience?

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[4] Although eRoom is tremendously useful for our project at Boston College, other schools may find that they already use other file-sharing resources on their campus that might be equally useful, such as courseware. At Boston College, we recently started using an online file storage tool called MyFiles@BC which some student teams now use in the project. MyFiles@BC is based on Xythos' (www.xythos.com) document management system, which many schools are adopting. We also considered using technologies such as Groove (www.groove.net) and web-based ASP document management solutions.

- What troubles did you experience during the case study simulation? What did not seem to work well? Please be truthful.
- What aspect of the case study simulation experience could be improved upon? Do you have any suggestions about how the experience should be changed for future semesters' students?

Students usually are very open about their opinions and write at length about their experiences. We then tabulate the responses to these questions and use the comments as the basis for modifying the project. Appendix III presents a list of student comments we collected after running the project for the first time in Spring 2002.

EVALUATING STUDENT FEEDBACK AND EVOLUTION OF THE PROJECT

After running the project each semester, we typically schedule a post-mortem meeting during which we review the accomplishments of the present semester, identify the shortcomings and difficulties students encountered, and state our objectives for improving the project. Over time, we attempted to clarify the project so students will not become frustrated during the semester. We faced an interesting dilemma during the first semester of the project, as we realized the ambiguity that surrounds a typical RFP process or client engagement was too difficult for the undergraduate students to grasp initially. By providing more direction and more frameworks in subsequent semesters, the quality of the presentations and the learning experience increased significantly. We also tried to improve the extent to which we simulate the life of an IT consultant by giving the students deadlines to work towards, clients to interview, and a diverse team with whom to work. Finally, we focused heavily on trying to improve the process through which students write their proposals and create their presentations. Our objective is to lead students to create documents that are as professional as possible so they can use them when they go out and interview for IT jobs.

PROJECT OUTCOMES

Deliverables

At the end of the project, each student team produced professional-looking deliverables. Students are graded on their written proposal document and their PowerPoint presentation. Students dress in business attire and present copies of their report and their presentation to the judges. As a result of the extensive comments that students received from the instructor and from actual IT consultants during the development of their proposal document and their presentation, students learned what level of detail is required. Thus their presentations and the deliverables they hand in are usually fairly impressive.

Student Benefits

Students found many aspects of the process to be beneficial. First, many realize that they do not know how to write a technical document and learn a great deal about the process of writing while preparing their team's proposal. Second, most students realize in the process of preparing their proposal that they do not know how to give a sales pitch or what they should be trying to sell the judges on. At this point they go back to their team coaches to ask questions about how to make presentations and to make dry runs to them. In the process they learn about sales presentations and the ambiguity surrounding selling consulting services. Third, many students initially are anxious about presenting to consulting firm partners. When it's over, they are very relieved and often very pleased. Several students later told us the experience helped them greatly during their job interviews.

This project provided unexpected benefits for the students. Because of the high quality of most of the final papers and presentations, the instructors encouraged the students to keep copies and to take them to their job interviews. Students who did so were amazed at the extent to which they can control the interview and the favorable response they receive. Many students informed us

that the project dominated the conversation during an interview. In fact, one of our students who forgot to include the project on his resume mentioned it briefly during an interview, and happened to have his project on hand during the interview. The interviewer was amazed that he had not included it on the resume, and the student got the job.

Students also have told us in person, through their student evaluations of the course, and through our AACSB-required departmental evaluations, that they find the project to be one of the most worthwhile projects they work on during their time as an undergraduate business student. We saw several comments from students that this project is the only one in which they experienced what it is like to work in a functioning team.

RESPONSE WITHIN THE CONSULTING FIRM

Reaction within the consulting firm is extremely positive. Throughout the entire local consulting organization, the case consulting exercise experienced a constant, if not increasing, level of enthusiasm and involvement. Within the local Boston office, this case developed into both an educational and cultural focal point. The case serves as an introduction to CRM and the surrounding business process and transformational activities to practitioners who are not necessarily working in the CRM field. In addition, the case provides an environment for the participants to expand their within-firm networks across a variety of industry and technical competencies, and to interact with fellow colleagues of all levels. Both the length of the project and its requirement of tightly linking the firm's coaches and clients as they work to support the student groups, proved to develop a core group of practitioners that helped to support the program since its inception and continue to foster collegiality.

The consulting firm established the program to continue its commitment to the community and to educate students on the systems implementation lifecycle, CRM processes, and what a career in consulting entails. The firm hired a number of students who took the class. In addition, the internal reaction among the consultants and senior management is positive. Senior managers, directors and principals do not mind spending time reviewing the presentations and actually enjoy quizzing the students on questions they typically are asked when they present findings in front of clients. The junior staff enjoys the opportunity to visit campus and help students at their alma mater. They take on a leadership role in the extracurricular activity to show their strengths and practice their management style.

The program's successes at Boston College spurred an effort to expand the program to other firm offices. Conversations in 2003 during the consulting firm's national CRM practice meetings hinted at future successes in extending the program, as colleagues from the Midwest, California, and Mexico demonstrated their interest in the program. At the end of 2004, the Boston team was working on developing a concise packaged version of the case that, along with a formal logistical process, will provide other offices with an organized product that can be used at other colleges and universities. Given the distributed nature of the firm (and in some cases the lack of geographic proximity to major recruiting schools) a national program is not the most likely outcome, but scattered programs at the office level seem to be a successful implementation. We are aware of one other university where the project is being run. We are also aware of several business schools evaluating the project for use in an MIS course.

FUTURE DIRECTIONS

One challenge with this type of project is to improve the core experience. Unfortunately, as with most types of course projects, over time, students who did not yet take the course learned about what their predecessors did to solve the case. Small changes to the core experience eventually are not enough to keep the project "fresh". Eventually we must create a new exercise. During 2004, we developed a new case based on Trade Promotions Management, a newly emerging area of CRM. We used this new case for the first time in the Fall 2004 semester.

IV. RECOMMENDATIONS FOR RUNNING AN EXPERIENTIAL LEARNING EXERCISE

Many IT instructors and IS departments today are considering the opportunities and challenges that may result from introducing experiential learning oriented team projects into their present courses. From our contacts with corporate personnel, we know that companies are also considering whether and how to become involved in cooperative educational initiatives. In this section, we share some of the insights that we gained since 2002 from our academic/industry partnership. In examining our experiences with running the case consulting competition, our group of stakeholders identified several recommendations relevant for academic faculty and companies interested in partnering together to create experiential team projects.

EXPECTATIONS OF ORGANIZATIONAL COSTS AND BENEFITS

Initially, we jumped into this project with the idea that it would be fun to try out such an exercise with undergraduate business students. Many organizations – both academic departments and the corporate partner organizations – may want to understand the benefits and costs of such an experience more fully before going ahead with it.

One issue concerns each party's perspective on recruiting and hiring students. From the school's perspective, it is great to undertake such a project because it brings the industry partner closer to the students, whom we hope they will hire. In fact, a few students were hired by the firm during the course of the project, but typically through the usual on-campus recruiting process. From a professor's perspective, we like to provide students with a connection to speakers who can help educate them on IT consulting, but we must make sure we retain academic rigor. From an organization's perspective, participating in such a project can provide the organization greater exposure to the current crop of students, and potentially a first look at eligible senior recruits. In our experience, we found that many business students are now aware of this project. Some students specifically register for the course for the experience of interacting with professional consulting personnel.

CONTINUITY OF FACULTY AND INDUSTRY PARTNER PARTICIPANTS

Because the projects usually require significant human resources, it is useful for faculty and their industry partners to discuss up front the longer-term objectives and resource commitments required from each party. Startup costs of such a project are high. The benefits from the project for students and for the industry partner tend to increase over time as initial kinks are worked out. Thus, the industry partner may want to ensure that the project will run long enough to make it worthwhile. Similarly, academic departments will want to make sure that the professors driving the project are committed to working on the project over multiple semesters, and if possible, several academic years. Overall, a process should be in place to ensure project continuity. At Boston College, we tried to ensure longevity by assigning multiple instructors to teach their own sections of the MIS course, thereby providing multiple knowledgeable instructors who could take over the project in case anyone needs to be replaced.

Conversely, the industry partner will need to consider how to ensure long-term stability and commitment by their personnel. Since 2002, several leads on the project took new jobs outside of the consulting firm, and key leads moved to other offices throughout the US. In each case, Boston office leads put in place a transition process for assigning new leaders and champions to take over the administrative and managerial aspects of the project.

SCALABILITY OF PROJECT: NUMBER OF STUDENTS IN CLASS SECTION

Human resource requirements may determine in which courses an experiential project can be used. Professors at other universities asked us whether it might be feasible to use our project with courses registering hundreds of students. Experiential projects such as ours can require large numbers of personnel to run successfully. In our project, a large number of managerial roles are being simulated, necessitating a ratio of approximately two consulting firm personnel for every

three students in the course. Initially, this project ran in sections registering 45 students, a level which can put stress on professor and consultant time. As such, a larger course would probably be infeasible for this type of exercise because it would require hundreds of staff to run the experience, not to mention the burden on the faculty.

We had to address this issue ourselves. In 2004 we developed a new case in which student teams produce a proposal responding to a Request For Information (RFI). The new case is focused on selling a consulting company's expertise in Trade Promotions Management to a consumer products company. This RFI-based proposal is also common in IT consulting, and is usually a precursor to the RFP that requests proposals on technology, project resources, timelines, and budgets. This new project still simulates the process of IT consulting and requires the same deliverables from students, but requires lower human resource commitments to carry out the project due to eliminating some contacts with managers of the imaginary company. The RFI format also helps focus the students' deliverables around the core business process and technology concepts presented in the case, and less on the logistics and billing/costing deliverables which can be extremely complex and somewhat irrelevant for a junior-level consultant.

STUDENT ANXIETY, FREELOADING, AND TEAM DYNAMICS

We found that one of the most important responsibilities for the professor is to deal with student anxiety, student freeloading, and other emotional and behavioral issues that can arise during the course of the project. Other immersive team projects also identified the important role of the instructor in dealing with conflict, confusion, insecurity, and a love-hate response of students to the heavy workload and uncertainty of experiential projects [Silvester, et al. 2002]. Because of the fast pace and the technical complexity of our project, many students are stressed out because they never did IT (or other) consulting. They view the project as something for which they are unqualified, and worry at length about failing. We found that simply calming their nerves by telling them the professional consultants were not long ago in their shoes can go a long way toward opening their minds to the possibility of being a successful consultant. Most students jump on board and work hard on the project, but when freeloading occurs, the faculty member will typically be informed of it by the student team project manager. This implicit form of peer review, as well as a well-written e-mail message from the instructor, will usually get the freeloader to start contributing to the project.

V. CONCLUSIONS

In this paper, we documented our insights from using an experiential project in the MIS course at Boston College. The project was jointly developed by two faculty members and personnel from the CRM practice of a major consulting firm. We used the project for several semesters and received a strong positive response from students. As faculty, we are extremely pleased. Students buy into the experience and it directly affects the quality of their work. We also were pleased by the recruiting success of students who experienced the project and later used the deliverables to their advantage when finding employment.

Much work can be done to learn how to structure and execute experiential learning projects better. We expect most such projects are conceptualized due to the inspiration of a few individuals who know little about experiential learning projects. As a result, they learn the hard way which forms of learning will be useful to students, and which aspects will create stumbling blocks. Additional research on experiential learning within management courses could answer faculty questions about running experiential learning exercises.

Being a case study, some limitations are inherent in the methodology used to analyze our project. For example, we did not use a formal measurement approach to measure the learning outcomes of our project. As a result, the primary evidence of benefits consists of self-reported statements of students. Although the feedback from students is quite rich, such evidence is subject to the

potential bias that can crop up in a classroom environment. Overall, students offered a significant amount of negative as well as positive feedback, leading us to feel that their statements about benefits were fairly objective. While it would have been ideal to collect formal questionnaire-based scale data on learning effectiveness, the past two years of plummeting IT enrollments meant the sample sizes in recent classes would have been very small. Also, because we modified the project each semester based on student feedback, data collected across different semesters would not prove fully consistent. In the future, we hope to be able to undertake such measurement in a formal controlled study.

Another potential limitation resides in the method we used to select team members. Our method of subjective skills analysis and team assignment based on instructor judgment was not validated formally. Thus, it would be interesting to incorporate a formal, statistically validated method for team formation into our project. For example, the Gallup Organization offers two proprietary assessment tools (Q12$^®$ and StrengthsFinder$^®$) that can be used in team member assignment and assessment [Sorenson and Crabtree, 2001]. Several typologies of team roles also are available, including a typology by Belbin that comes with an associated team role self-perception inventory [Swailes and McIntyre-Bhatty, 2002]. Kirkwood [2004] describes an optimization-based approach for assigning students to project teams based on student capabilities and project team constraints. We expect these methods for team formation may be helpful with larger course sizes and hope to use them in our course in the future.

Notwithstanding these issues, we find management students in our MIS course respond well to team projects simulating activities of IT consultants. We hope this paper will stimulate thinking on new experiential learning projects for IT courses, and provide the spark to motivate additional academics to undertake such projects.

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Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that
1. these links existed as of the date of publication but are not guaranteed to be working thereafter.
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APPENDIX I: SYLLABUS DESCRIPTION OF TEAM PROJECT

Table A-1. Typical Syllabus Description of Case Consulting Competition

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Team Project: Case Study Simulation on Customer Relationship Management

The team project will involve a case study simulation led by staff from a consulting firm here in Boston. Students will form teams, and each team will serve as MIS consultants to a made-up corporation. This case experience is based on issues from a real consulting engagement involving choices surrounding the implementation of a Customer Relationship Management (CRM) system.

The Objective:

The goal of this experience is for you to experience first-hand the life of an MIS consultant, and to go through an experience in which you must make some decisions like they make in their consultancy. Another objective is to provide you with opportunities to interact with actual MIS consultants who deal with the technologies we talk about in class on a daily basis. Many of these consultants will be BC alumni. They are volunteering their time to help you gain a better understanding about the MIS consulting industry, the activities in their daily jobs, and CRM.

Learning Outcomes:

By the end of this experience, you should learn the following:

(1) You'll know a lot about IT consulting and CRM.

(2) You'll know how to present a sales pitch for IT consulting services (and conversely, if you need to buy such services in the future, you'll know what you're being told and what you're not being told).

(3) You'll know how to write a response to a Request For Proposal (RFP) for IT consulting services (or other consulting services), in order to try to win a client.

(4) You'll have a chance to present your solution to, be questioned by, and be judged by, consulting firm

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managers and partners (and, of course, your instructor).

The Prize:

The case simulation is a competitive exercise. After the presentation of your suggested solutions, the judges will announce the top three teams' solutions. Your instructor will present a BC-branded prize to those teams on the final day of class.

Your Project Team:

You will be asked to form groups of approximately 4 to 5 students each. While the natural tendency when doing so is to pick (a) a group of your friends, or (b) those sitting closest to you in class ... I suggest you not do this, and I will in fact guide the process of allocating students to teams in a balanced manner.

You will want to make sure that your group has a mixture of people with tendencies toward project management (i.e., the "Project Manager" type), concept development and brainstorming (i.e., "Concept People"), documentation of what you accomplish (i.e., "Document Manager/Word Expert/PowerPoint Expert"), and abilities to envision how to choose and adapt technologies to create systems ("Techie Types/Techno-Geeks").

One person will be chosen to serve as the Project Manager for each team. This person will be the primary contact who will interact with the DC employees who will work with your team. The Project Manager will set up group meetings with the DC employees, and of course, will need to manage group members to get the project done.

Further information about the consulting roles that individuals in your team will need to take on will be given during the first DC class presentation.

Project Timeline:

The timeline for this project will be as follows:

Friday, September 26 (2:00-4:00 p.m.): Staff members from DC will attend class to introduce themselves, and will present a presentation on what MIS consulting involves, what their backgrounds are, what their jobs are like, and what different personnel roles are available in MIS consulting. They will then present the Case Study that each of your MIS consulting teams will be asked to present a solution for. They will describe the client's problem, present each team with materials about the client problem, and outline the expected deliverables at the end of the consulting engagement.

Friday, October 10 (2:00-4:00 p.m.): Staff members from DC will attend class and will present a presentation on what CRM is, how it affects sales force management and customer service, the various technologies involved, and so forth. They may demonstrate a few of the software packages that are used today.

From October 11 To November 20: Each team will work on providing a solution to the client. Each team will have access to a DC staff person who will serve as a "Managing Partner" to help guide your team toward an appropriate solution and to make sure you don't end up way off track. Each team will have access to a DC staff person who will serve as a "Client Company Manager" who can provide you with answers to any questions that may arise. These contacts with DC staff will probably require one telephone conference call involving your whole team, and perhaps other contacts between the MD240 team project manager and the two DC staff members.

Friday, November 21 (1:00-6:00p.m.): All teams from MD240 will take a bus downtown to the offices of DC to present the teams' case solutions in the DC boardroom. Each team will present their solution to a judging panel of DC managers who will evaluate the team presentations, choose the best solution, and present what was actually done as a wrap-up to the experience. Each team will need to be prepared to present a 10 minute overhead presentation of their suggested solution to the case. Each team will probably need to choose two persons from the team to present their results, in order to meet the 10 minute presentation time limit.

After the presentations are finished and a winning team has been chosen, there will be a debriefing to explain to you how this case was solved in the real consulting engagement. There also may be time for a short social period during which you will get to further meet and get to know the DC staff involved in this case simulation experience.

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APPENDIX II: EVALUATION PROCESS AND GRADING FORM

Table A-2. Grading Summary Sheet

Team #1	Presentation Order:	Team Coach:		**Grader Rank:**
Team Members	**e-mail**			

Judge	Rating #1 Understanding of EE and Problems	Rating #2 Solution Description	Rating #3 Project Approach	Rating #4 Presentation Quality	Rating #5 Presentation Delivery	Rating #6 How Compelling Is It?

Grading Item	Basis for Grade	Letter Grade	Point Value
Judge #1 Rating			
Judge #2 Rating			
Judge #3 Rating			
Judge #4 Rating			
Judge #5 Rating			
Instructor Ratings	**Basis for Grade**	**Letter Grade**	**Point Value**
Professionalism of Written RFI/RFP Response			
Completeness of Written RFI/RFP Response			
Quality of Project Management Details			
Internal Consistency and Quality of the Overall Solution			
How Compelling Overall?			
Total Score			
Average Score (out of 100)			

Description of Rating Process

During the presentations, the judges rated each team's presentations on 6 items. The ratings given varied between 1 (Very Poor) and 10 (Excellent). These six items rated, and the percentage weight given to each item, were as shown in Table A-3.

Table A-3. Team Presentation Rating Dimensions on the Grading Sheet

---

1. Understanding of Eagle Enterprises and its Problems (15% of total)

In this area we want to ascertain the group's understanding of the specific problem's faced by Eagle Enterprises. The group should also demonstrate an understanding of the organization. This includes a demonstrated understanding of the company background, its business operations, as well as its culture and people. Understanding the organization, and its issues and challenges is critical to effectively proposing solutions.

2. Solution Description (20% of total)

The solution description criteria measures the group's presentation of their solution to Eagle Enterprise's issues (identified above). The solution should address the areas of Sales, Marketing, and Customer Service, and include suggestions and or recommendations for addressing the problems in each area. The solution need not be extremely technical, nor specific in nature but should include concepts learned from the class presentations and related materials.

3. Project Approach (15% of total)

Does the approach presented in the presentation include a realistic timeline? Were business transformation issues addressed in the approach? Did the presentation include a proposed team structure?

4. Presentation Quality (20% of total)

Presentation quality includes the overall aesthetic nature of the presentation, as well as the content contained within. Were the presentation materials clear? Did the slides flow well? Were the slides appropriate for the audience? Did the slides have good content? Were there significant spelling, grammar, or structure mistakes that revealed a lack of preparation?

5. Presentation Delivery (20% of total)

Presentation delivery measures the groups effectiveness in *delivering* the content contained in their presentations. Did the team effectively present the materials in a way that was clear, concise, and professional? Were ideas and thoughts contained in the presentation communicated well? Remember, and excellent presentation is only as good as the teams' ability to present it clearly and effectively.

6. How Compelling was it? (10% of total)

The objective of a proposal is to impress the client and win the contract. The oral presentation is typically the final opportunity for a consulting firm to convince the client they are the right team for the job. If you were Eagle Enterprises, would you be convinced that this team can do the job? Would you hire this team to provide consulting services to your organization?

After the presentations, the judges leave the room, and compile their final scores. First, the scores are tabulated for each judge. Each judge then rank-orders the teams based on their scores. At this point, the top-rated team of each judge is given 8 points (here we assume 8 teams), the second rated team is given 7 points, and so on, down to one point for the bottom ranked team. These scores are then summed to identify which were the top presentations. The judges then review their notes to decide whether there was any information that could be used to sway the scores one way or another. Typically, the scoring is found to be pretty consistent with overall impressions, and the scores are decided to be reasonable.

Table A-4. Team Presentation Scoring Sheet

Judge	Top Score	2nd place	3rd place	4th place	5th place
A	Team 1	Team 5	Team 4	Team 3	etc.
B					
C					
D					
E					

	Team 1	Team 2	Team 3	Team 4	Team 5
Score	55	47	etc.		

APPENDIX III. STUDENT COMMENTS (SPRING 2002)

	What did you feel that you learned during the case study simulation, and what did you feel was the most beneficial aspect of the case study simulation? Did you enjoy the experience?
Experiential relevance	The best part was the experience itself (working with the consultants, detailed case, presentation at office). As much as classroom presentations are meant to help prep you, nothing beats the real thing. It was a unique and memorable experience.
Realism	I think the most beneficial thing about the case study simulation was that I did a presentation that was aimed at actual business people and not just my classmates. I liked getting the experience of giving a presentation to executives. It was not as nerve-wracking as I thought. I liked that we had contacts and client meetings (felt real).
A vision of reality	I learned about the business of consulting and I enjoyed it very much. The most beneficial thing was it was one of my only classes that I was able to see how this could play out in reality. That was a great thing to see.
Learned by doing	We learned by preparing our own proposals and the feedback helped tremendously. It was time consuming but also enjoyable.
Learned more about IT	I learned more about actual technology used in IT solutions. In addition, I learned that company problems can be complex. The most beneficial part was interacting with real consultants. Overall it was a decent experience, but a lot of work for the percentage of the grade that it was worth.
Complexity of IT solutions	IT solutions are not as easy as one thinks – they're multi-faceted and affect every aspect of the business from budgets and planning to human resources to marketing. There is no easy solution – usually it is multiple solutions that work towards common goals. Consulting pitches are not the same as business restructuring pitches. I enjoyed presenting the project much more than actually doing it. Too much data was provided for a 10 minute presentation.
Explored IT consulting	I learned a great deal about consulting in general. I learned that there is not only one way to solve a problem and working together to come up with a solution is very important. The most beneficial aspect of the case was speaking to the advisors and the clients. They provided real world experience and expertise. It made the project more interesting and more real. Overall, I enjoyed the project a lot. What worked well was the presentations given by the consultants and the whole experience downtown in the Boardroom.
Exposure to consultant lifestyle	Most beneficial was seeing a window of real life experience (Mike would come by after work at 10:00.), and seeing the work they would do.
Process of consulting	Learned the structure and approach of a consulting team. Most beneficial was working and talking with our advisor. Really showed us what a consulting firm normally does when approaching clients. I enjoyed it because consulting is something we always indirectly talk about here at BC, but this project forced us to apply our skills to the project and think of concrete ideas.
How a consulting firm operates	The most important thing I learned was how a consulting firm operates. I had a general idea at first, but this helped me to see more clearly that it is something I would like to explore.
Learned I don't want to do consulting	I learned I do not want to do IT consulting. I did not enjoy the experience because I do not understand IT like other kids knowledge in the class, and felt at a disadvantage.
Consulting as answers vs. suggestions	I learned that consultants do not always give answers, but are more likely to give suggestions.
Approaches for consulting	I learned that pushing your ideas on the client because you think it is the proper solution is not the best approach. The solution has to come from both parties like a joint venture.
Consulting is a service	Yes, I enjoyed the experience. I feel we learned that it is important to remember that consulting is a service for the client. You should present them options and then assist them in whatever choice they make.
Learned to work as a team	I learned the importance of team work and working together; we never would have got the project done working alone The most beneficial aspect was having a consulting firm employee helping us; our advisor was very easy to talk to and really helped us out with everything. I really enjoyed the experience because I got to know what it would really be like to work as a consultant. Our advisor told us that he was actually given the same case we got (as training) when he started working at the firm.

Experiential Learning in a Management Information Systems Course: Simulating IT Consulting and CRM
System Procurement by G.R. Heim, L. Meile, J. Tease, J. Glass, S. Laher, J. Rowan, K. Comerford

Work allocation and coordination	I learned how to split the case up into aspects that would be handled better by other group members (tech oriented members, for example) and still come together to make the project seamless.
Research process	I think that the most beneficial aspect was learning to weed through the enormous amounts of information given to find out what was really important.
Importance of constant communications	I learned that constant communication is key for a successful group project. Members of a group must be able to communicate in any way possible to make it happen.
Team performance challenges	Learned how difficult a project can become when your team is cut in half and has dead weight.
Learned from others presentations	I did enjoy the project. I think the most beneficial part was the fact that we got to listen to the other projects and learn from them.
Learned from expert guidance	The most beneficial part was being able to talk with our leader for advice.
Presentation skills	It also helped us to learn more about presentation skills. A proposal presentation is much different than an informative one. I learned that a lot goes into a presentation for a customer you are trying to gain. It was educational to "perform" for business people. That I believe was the best part – getting to present for a real company. That will help greatly.
Empowerment	I learned very much about the actual business of consulting (through our team's mistakes especially). It was exciting to have the creativity and power to develop our own, unique solution.
Exposure to executives	I think the most beneficial aspect of the case study simulation was being able to present our ideas to executives and answer their questions to the best of our abilities. It was a good experience to be questioned seriously and have to know as much as possible to be prepared. It was realistic.
Networking with consultants	Got to network with consultants. Got a glimpse of real-world consulting. Interacting with people that do that kind of stuff for a living was and eye opening experience. Thank you for providing us with that opportunity.
	What aspects of the case study simulation experience could be improved upon? Do you have any suggestions about how the experience should be changed for future semesters' students?
Make guidelines clear to student teams	The guidelines and objectives should be clearly stated.
Carefully choose background information	Excess information doesn't need to be given. The CD that was given to us had an overwhelming amount of information, a lot of which we didn't find necessary. More tailored information would be helpful in the future.
Make guidelines clear to team coaches	Stress the importance (to the consultant coaching staff) of responding to their student teams promptly. I also think all the consulting firm contacts should be on the same page and all give the same kinds of information to each group.
Create more interaction with coaches	More meetings with consultant advisor. More than one meeting with client. More time to discuss/meet with advisor and client since we are busy and they are busy.
Use multiple RFPs	Class should be divided into several groups addressing different cases. Maybe offer different cases, so all of the groups are not talking about the same thing over and over again for hours.
Use the problem to motivate learning	Make sure everyone understands that this is a pitch to get the consulting job – not a pitch after you've already been hired. Hand out the case before you teach us CRM and SFA so we can relate it to the case.
Earlier start date	The project is very beneficial, one of the BEST experiences in any BC class. I'd suggest starting it at the beginning of the semester and finishing it around midterms. We were rushed at the end of the semester.
Better structure of dates and deliverables	The scheduling could be better. A little more structure would be helpful (this was our first time doing anything like this and we were flying blind).Less time between the presentations to actually receiving the project to actually starting the project. When the consultants presented during the Friday class sessions, we couldn't follow at all. When we got the project, we forgot everything from their presentation.
Let us learn more about consulting	I wish that the consultants had spent less time teaching us about CRM and more time teaching us about consulting and how to prepare a presentation. Have the consultants teach more about the actual consulting process: goals of presentation, specificity of solution, speaking with client.
Make judging criteria clear	It would also be nice to know what we were being judged upon, so we can tailor our thoughts and presentations accordingly. Additional online resources or suggestions to get started might also be helpful.

	What troubles did you experience during the case study simulation? What did not seem to work well? Please be truthful.
Realism of project created uncertainty	There seemed to be too much information on the CD. The scope of the project also seemed to be too broad. We often felt like we were leaving things out but still had to make a coherent 15 minute presentation. Too much uncertainty.
Overwhelmed initially	The main trouble was the complete lack of direction in the beginning because we really didn't know how to approach the problem, but it got better once we met with the DC person.
Difficulty getting started	No one at first knew what to do. At least for me, it seemed so open ended that I didn't know where to start, how in depth to go, what was the main focus, etc. Nevertheless, though this was a trouble at first, it turned out to be a positive trouble in a sense that I was forced to think more analytically and not so traditional.
Misunderstanding of project	Not understanding that we as "consultants" had not been hired yet.
Lack of directions	Not knowing what they wanted. They were very vague and I think that was unfair. I'm sure their workers know exactly to concentrate on every time. We were in the dark.
Requirements were not specific enough	Communication problems about requirements: how in depth, what was required. Inconsistent advice from our advisors. We were told to be general, but other groups that did better as far as the rankings were more specific.
Team coordination	Trying to coordinate the group's schedules. Working with each other came to be really stressful and difficult at many times. However, some factors are unavoidable like time constraints. I think we had a difficult time due to each person's own character which conflicted others.
Time management	Time management – group members were busy with a lot of other things and meeting times were tough to find. The scope of the project was very demanding in terms of commitment and time. Working with a professional consultant was a great experience and he offered us a lot of insight when we ran into a major problem.
Timing problems	A lot of work was done last minute. Also, we really didn't have an idea of how to present the case. The sample deliverables weren't a good guideline. The project should have started earlier, and there should have been deliverables over the semester.
Project was too specific	I felt that we were basically given the solution in the case. Presentations would have been more interesting if the case were more vague.
Difficulty contacting coaches	Difficult communicating with our team adviser as a result of having different schedules. Not clear as to what was expected from us. With many of the consultants being on tight schedules and traveling frequently, it was difficult to find time to get their help.
Coaches not aware of their roles to play	Our team's Eagle Enterprises client contacts weren't well informed or helpful. The coaches we were supposed to work with, who were supposed to answer our questions seemed to know less about the project than we did.

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