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ISM4300 AND THE CASE METHOD[1]

Discussing a case about how their course will be graded, then letting them make the decision...A novel approach or just too weird?

Grandon Gill, Professor in the Information Systems and Decision Sciences (IS&DS) department at the University of South Florida's College of Business, looked over his course syllabus for Ism4300 and sighed. The structure of the course was going to be radically different from anything his students had experienced before. Before the course got too far along, he needed to be sure that students understood the requirements and felt personally invested in the class. But was having them discuss a case about the class itself a reasonable way to accomplish this? He sure hoped so…

Ism4300 was the capstone course for the department's undergraduate MIS major. Its main objective was to help students learn how to apply the knowledge they had gained over the course of the major. This learning was to be achieved in two ways:

1. *Case Discussions*: Each week students would discuss an in-depth case study of a particular IT-related decision. These cases profiled both business decisions made in IT-focused companies and IT-decisions made in any type of organization. All had been developed by IS&DS faculty members at USF and most involved local businesses.
2. *Individual Projects*: A term project—which could either be technological or research-focused—chosen by the student intended to demonstrate key elements of what he or she had learned in the program.

Even with the basic course structure in place, there are a lot of decisions that need to be made in order for this class to be a success. These included:

- Should the course contain an online component or be entirely face-to-face?
- Should progress deadlines within the class be strictly enforced or flexible?
- Should a detailed grading rubric with specific point values for each activity be established or should a more subjective approach be taken?

Gill did not feel strongly about the specific outcome of any of these decisions, but he suspected that his students might feel otherwise. He hoped that discussing the class and these issues would help him better determine what should be done. In fact, he wanted to leave the decisions to the class as a whole—provided that they could come to a consensus.

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Background

The course being taught by Gill was the capstone course for the undergraduate MIS major. Important factors influencing its design were: 1) the nature of the MIS major itself, 2) the role of the capstone course in integrating and evaluating student learning outcomes, and 3) a grant from the *National Science Foundation* to develop and test a new approach to the course.

Undergraduate MIS Program at USF

The undergraduate MIS program at USF was offered by the IS&DS Department of USF's College of Business. Typically, between 200 and 300 students pursued the major at a given time, although the number had been as high as 1100 during the internet bubble period of 1999-2001.

Because students received a business degree rather than a computer science or engineering degree at the end of the program, the number of MIS-specific courses required was relatively small—8 courses out of a total of 20 courses—mainly in other areas of business—that students took in their junior and senior years as undergraduates. For this reason, many of the courses offered in the program—shown in Exhibit 1—represented surveys of important IT topics (e.g., programming, analysis and design, data communications) with relatively limited opportunities to apply what was learned in subsequent courses. The one exception to this was the database topic, part of the department's emphasis on business intelligence, where several higher level courses building on early skills were offered.

Because of the limited number of credit hours available, great care had to be taken in designing each of the courses that each student was required to take. Four of these courses covered relatively distinct topics: programming (Ism3232), systems analysis and design (Ism3113), databases (Ism4212) and data communications (Ism4220). The final course in the major, Ism4300, was an exception, however. It was supposed to help students synthesize what they had learned in earlier courses—on both the technical and business sides. A course of this type was normally referred to as a *capstone* course.

Role of a Capstone Course

Any educational program faces two important challenges: assessing what students have learned and ensuring that they are able to use that learning outside of the classroom. A particularly important way of addressing this challenge involves offering a course known as a *capstone*. The purpose of a capstone course is to provide students with the opportunity to apply what they have learned over the course of the program in a context where "what to do next" is not obvious or dictated by a textbook. How well students perform in such a course also provides important evidence of what they have managed to retain from earlier courses in their program.

Designing an effective capstone course for a program such as the USF MIS major was a difficult problem because of the variety of student skills and interests coming in. On the one hand, the course could be taught entirely from a business perspective. While certainly valuable, such a course would do little to reinforce the technical content students had learned. On the other hand, some schools made their capstone a pure project course. At USF, however, focusing entirely on the technical side would be problematic. Some students, particularly those interested in technology, might have taken three courses in technical areas such as programming or databases, while others might have stopped after the required introductory course. Finding a project that would be challenging for—but not beyond the skills of—all students would be nearly impossible.

One possible approach to the capstone design was suggested by Gill's experiences teaching the capstone course of the department's master's degree program. That design, the winner of an international competition for "innovative instruction" from the *Decision Sciences Institute* in 2005, was built around a

mixture of case discussions and research projects. There were two obstacles to applying that model directly, however:

1. The cases used in the MS-MIS capstone were almost all developed by *Harvard Business School*—Gill's alma mater—and were designed for MBA students. As such, they tended to involve decisions that would likely seem far removed from those USF undergraduates would be facing in the first decade of their career.
2. The research component of the MS-MIS course represented an area that was not emphasized in the undergraduate curriculum. While Gill felt that undergraduate students could do a reasonable job on the activities, they would not particularly reinforce the skills acquired earlier in the major.

With respect to the second of these issues, Gill felt that a flexible project option—one that gave students the ability to choose the type of project that they would pursue—could replace the research elements. With respect to the relevance of the discussion cases, however, new materials would need to be developed.

NSF Grant

The desire to develop a set of case studies that could be used as the core of the undergraduate capstone course motivated Gill to propose a project to the *National Science Foundation* (NSF), which had a number of programs designed to further STEM (science, technology, engineering, and mathematics) education. The objectives of the project were ambitious. As described in the proposal abstract:

> The University of South Florida is exploring the use of authentic, open cases in STEM subjects in a capstone course for an undergraduate MIS program. In addition to developing and teaching the course itself, the project entails: 1) the creation of roughly 12 new case studies involving technological decision situations written at a level appropriate for undergraduates, 2) a faculty workshop on case method facilitation and case writing, 3) publication of a book specifically designed to support the workshop, available both in print form and electronically downloadable at no cost through a Creative Commons license, and 4) publication of the cases produced under the grant in a peer-reviewed outlet that offers free access to STEM educators.

Within the abstract, the term "authentic" referred to the fact that the cases to be developed were going to be based on real organizations and people, rather than being fictional. The term "open" meant that the cases were not expected to have a right answer; instead there would be many good (and a far greater number of bad) solutions and students would be expected to exercise their judgment to distinguish between them.

One key aspect of the proposal was that many different MIS and other faculty members would become involved in writing the cases and—eventually—teaching the capstone course. Although discussion case writing was a staple of the research at HBS, it was a foreign activity to most faculty researchers, whose training was oriented towards producing journal articles. Gill hoped to see that changed as the project progressed. Moreover, his goal was that the process should produce a collection of cases that would be available for use by MIS programs throughout the world at no cost. He further intended that the materials he developed for faculty members on case writing and case facilitation would be similarly available.

In targeting case sites appropriate for undergraduates, Gill envisioned emphasizing local companies—those likely to be future employers of USF graduates—and small businesses, whose issues were likely to seem most relevant to undergraduates. Of particular interest were organizations whose decision-makers could be convinced to sit in on class discussions and then offer their experienced viewpoint once the discussion was completed.

Another aspect of the grant was built around trying to assess the learning that took place as a result of the discussions over the course of the semester. This had long been an obstacle to discussion-based learning. Unlike lectures that emphasized testable content, case discussions often left students with the perception that they had learned a great deal from the process, but unable to identify what it is that they had learned. This was a problem everywhere that cases were used, including HBS. Gill had proposed using a variety of different approaches to measuring learning.

In April 2011, the proposal that Gill has submitted was approved by NSF, scheduled to begin on 1 June 2011. In early May 2011, Gill held a week-long workshop for members of the proposal team (including IS&DS department chair, Dr. Kaushal Chari, and Dr. Manish Agrawal, both of whom were Co-Principal Investigators on the grant) and other interested faculty members. Over the course of the summer and fall of that year, Gill and several faculty participants on the project team began developing case studies as part of the two year project. It was not until January 2011, just a few days before the first offering of the newly designed course was scheduled to begin, that he completed the syllabus.

The Case Method

The core of the redesigned Ism4300 was the use of the case discussions according to a protocol that is commonly known as the "case method". This particular approach was first introduced early in the 20th century at Harvard Business School (HBS). Whereas traditional lecture-based teaching is normally focused on conveying content (e.g., facts, theories and problem-solving methods), the case method is particularly focused on building the participant's capacity to make sound judgments through integrating many diverse sources of information.

Discussion Case Studies

The case method is built around a *discussion case study.* Unlike the "case studies" that frequently in textbooks to present a real world example, or the business cases that appear on corporate web sites to illustrate the successful use of a product, discussion cases provide a detailed description of a real-world business, organizational or personal situation *for which one or more decisions must be made*. It is in the analysis of these decisions that judgment is required.

The decision-oriented focus of the case is critical. Whereas case studies developed for research or illustrative purposes provide stories that describe the outcome of a particular situation, the discussion case stops at the point where the decision must be made. The participants in the case discussion then examine the situation from the perspective of central figures on the case—referred to as the *case protagonists*—and attempt to come up with sensible decisions. In most of these situations, there is no right or wrong decision. Rather, there are some decisions that make sense, and many more that probably do not. The goal of analyzing the case study is to come up with at least one sensible course of action, and to eliminate as many bad choices as possible.

Discussion case studies tend to be relatively long, since few situations encountered in organizations can adequately be described in a paragraph or two. Normally, discussion case studies are divided into two sections, the body of the case and exhibits containing tables, illustrations and reference materials. The length serves two purposes. First, it allows the situation to be described in whatever detail is necessary—although even the longest case study will require the reader to make some assumptions since *it is impossible to cover everything*. By the same token, the length of the case means that some of the details mentioned in the case will not be particularly relevant to the decision. This is valuable because being able to distinguish between important and unimportant facts is necessary in any non-trivial decision. In organizations, an unambiguous roadmap that identifies what you really should know is almost never available.

In-Class Case Discussions

Exhibit 2 contains excerpts from a fictional discussion taken from a recent book on the case method. A typical case discussion, as conducted at schools such as HBS, takes place in four stages: 1) student preparation, 2) the opening, 3) the discussion, and 4) the summation.

Preparation

Before a useful case discussion can take place, students must be prepared. Preparing a case study is a time-consuming process; even experienced MBA students typically require about two hours if they are going to be adequately prepared. While it varies across individuals, case preparation normally involves:

- Reading the case to get the "big picture"
- Going through the case in detail, taking notes on the body and the case exhibits
- Preparing an outline of key points likely to be encountered during the discussion

Some faculty members choose to assign pre-case study questions while others prefer to let students determine relevant questions on their own. The advantage of pre-case questions is that they tend to focus the student's preparation on the most important issues of the case. That is also the disadvantage of such questions, however. In real world settings, as noted earlier, what is important and unimportant is often hard to distinguish.

In case method programs students often get together to compare notes and ideas during their preparation. Unlike some types of homework—where such collaboration is prohibited and treated as a form of "cheating"—virtually all faculty members who lead discussion classes actively encourage students to get together while preparing their cases prior to class.

The opening

In order to start a case discussion, the faculty member—usually referred to as the facilitator—will typically call upon a student to open. There are a number of variations in this process. The first involves asking for a volunteer to open versus the "cold call". In the case of the latter, the facilitator chooses a student to open without any advance notice. It is, by far, the more common approach in programs that rely heavily on the case method.

The cold call offers several advantages over using volunteers to open, and one key disadvantage. The advantages are that it provides a strong motivation for students to come into the class well-prepared. Trying to open when unprepared is something few students would care to repeat. Along the same lines, it provides an alternative to forcing students to prepare by making them write a summary of each case prior to class—a requirement annoying to students and instructors alike. Finally, as the semester progresses, it provides the facilitator with the opportunity to encourage participation from students who have been reluctant to contribute to discussions in the early classes. Naturally, some students view this as a mixed blessing.

The big disadvantage of the cold call is what occurs when the student asked to open is, in fact, unprepared. There are two general approaches that students seem to take in such situations. The first is to brazen it out, attempting to open and read the case simultaneously. This approach is rarely successful and, to discourage such attempts in the future, facilitators will often starting interrupting the student's opening with questions that cannot be answered with casual skimming. The second approach to being unprepared is to "pass". This allows the facilitator to move on to another student without wasting the class time but also informs the facilitator that the student had come to class unprepared. For students who had actively participated in prior discussions, such a pass would not necessarily have serious consequences. For

students who have participated little, however, the lost opportunity to open could seriously impact their course grade.

The manner in which the facilitator asks a student to open also varies. Some facilitators ask the opener a very specific question. Others choose a more general question, such as "What do you think [the protagonist's name] should do?" or simply ask "Would you care to open?". While the opening progresses, the facilitator will often write an outline of what is being said on the board. The mark of a good opening is that the outline on the board makes sense, and seems to be well organized.

The most effectively openings for a typical discussion case tend to proceed along the following lines:

I. The issue being faced is briefly described
II. The recommended decision or decisions are summarized
III. Key elements of background are presented
IV. The rationale for the recommendations is presented

Students often find themselves starting with Item III, making the opening more like a detective story as the facilitator and class wait for Item II—not presented until the very end (if at all). The suspense value generated by this approach rarely justifies the confusion causes by the flood of seemingly-irrelevant details that occurs in presenting the background first. In addition, the best openings proceed on the assumption that the rest of the class and the facilitator are aware of the case facts; the purpose of the opening should therefore be to separate the important from the unimportant. Good openings do not simply rehash the case itself.

The discussion

The heart of the case method is the discussion of the case. The assumption here is that even thorough preparation of a case does not guarantee that a student will understand all the nuances of a particular situation. By discussing the case with others—under the direction of an experienced facilitator—many of these nuances come to the surface. Often, what is said leads participants to rethink their initial recommendations. This is viewed as a good thing. If the process of discussing a case led to no changes in opinion, there would be no point in having such discussions.

The facilitator's role in the case discussion is very different from that of the faculty lecturer. When a class come is well-prepared, the vast majority of the facilitator's comments will be in the form of questions to participants. From time to time, the facilitator may point out a case fact or add background information. On the whole, however, the best discussion leader is the one that elicits most or all information from the participants themselves.

Aside from asking questions, the facilitator will sometimes play the devil's advocate—making a case for an alternative viewpoint or solution when the class appears to be reaching a consensus. A facilitator will also sometimes attempt to lead the class towards a solution then, as consensus starts to form, will raise questions that highlight its weaknesses. Participants quickly come to recognize that such techniques are used to serve the needs of the discussion process; they do not necessarily (or even usually) represent the facilitator's personal views.

In a case method course, discussion participation typically accounts for a large proportion of the student's overall grade (at HBS, more than 50% is the usual, with exams counting for the rest). Judging participation, however, is highly subjective. That being said, there are certain types of contributions that are nearly always welcome and are likely to add to a student's overall assessment. These include:

- Comments linking a situation in one case to another case that was previously discussed
- Comments that bring in ideas from other classes
- Comments that link a participant's own personal experiences to the case
- Comments that offer a well-thought-out competing point of view to a discussion where the class seems to be in agreement
- Comments that offer an integrative perspective that goes beyond the specific focus of the case (e.g., relating to ethics, involving business functions beyond the specific area of a course, such as MIS).

Similarly, there are some comments that are unlikely to add much to a student's participation tally. These include:

- Simple statements of agreement that do not offer new evidence
- Arbitrary changes of topic during the course of an active discussion that has not started to wind down
- Comments that relate to an earlier topic from which the discussion has already moved on
- Comments that appear genuinely disrespectful of the opinions of individual participants

With respect to the last of these, some common sense must be applied. Some facilitators use an exaggerated style that involves intentionally making provocative remarks; some students mimic that style as well. Such parody should not be confused with genuine disrespect.

The summary

At the end of each discussion, a facilitator will generally spend 10-15 minutes reflecting on the discussion. Sometimes, the actual decision or set of decisions made by the organization or individual featured in the case will also be specified. The goal of such reflection is generally not to identify the "right" decision or to imply that whatever decisions were made were the correct ones. Rather, it is to help students better understand the types of situations to which the lessons of the case might apply.

In early cases, the facilitator may also use the summary to introduce frameworks that might apply to later cases. Generally such frameworks are offered as something that might be useful, rather than as theory that must be applied in later cases. As a general rule, adherents of the case method tend to be theory-agnostic. They have no objection to theory being applied where it is useful, but are reluctant to propose any theory or framework as being relevant to all situations.

ISM4300 Design

The Ism4300 course design consisted of three elements: the case discussions, the course project and the evaluation plan. The objective of the case discussions, as noted previously, is to give students practice in analyzing situations requiring judgment. The objective of the course project is to provide students with the opportunity to demonstrate and practice skills that they have acquired over the course of the MIS major. The goal of the evaluation plan is to determine how effective the case discussions and projects have been in achieving their goals.

Case Discussions

There are numerous sources of IT case studies, the largest of which is *Harvard Business School Publishing*, which reportedly supplies over half of all business case studies used in graduate schools across the country. A problem with relying too heavily on cases from this source is that the decision-makers profiled are usually high level executives at large companies or well-funded startups. While these

may seem relevant to MBA students at top graduate schools, it could well be decades—if ever—before a typical USF undergraduate MIS major would face similar situations.

A central idea behind the USF NSF project was to develop a set of cases that would be particularly relevant to USF undergraduates as possible by using local organizations and, wherever possible, bringing the actual participants into the classroom to observe their case being discussed. By spring 2012, that objective was largely complete, although some cases were still being completed as the semester began.

The in-class discussions of these cases were to be conducted largely according to the standard protocol described in the previous session. There were, however, three additional activities that Gill required:

1. *An in-class pre-case question*. At the beginning of each class, Gill would write a question on the board. During the first 25 minutes of class time, students would write an analysis of the question and upload it to Blackboard. These would be graded each week on a three letter scale: S=Satisfactory, E=Excellent and W=Weak.
2. *A post-discussion reflection*. Immediately after each discussion (combined with the break), student would fill out a form asking students:

    i. What are the three most important things you learned from the case?
    ii. How did the case discussion change your view of the case?

    These would also be graded using the S, E, W scale.
3. *A case evaluation form*. A simple form used to gauge student reaction to each case study. An example of the form is included as Exhibit 3. These would not be graded, but students would get credit for making the submission.

These three activities would be wrapped into each student's participation grade. The purpose of the first was both to ensure that students came in prepared to discuss the case and to determine the pre-discussion range of perspectives of the case. The purpose of the second was to assess how the discussion had impacted student perceptions of the case. The purpose of the third was to gain a sense of the students' reaction to each case study, helping Gill decide what cases should be rotated out in future classes.

The Course Project

The second element of the capstone course was the course project. The objective of the project, described in detail in Exhibit 4, was to provide students with the opportunity to apply in-depth something that they learned over the course of the USF MIS major. The types of project allowed were intentionally broad, and included programming projects, database projects, analysis and design projects, web site development, technology white papers, research projects and even case studies.

Projects were to be individual efforts, rather than group efforts. About half-way through the semester, each student was expected to submit a project proposal. Gill would comment these proposals and attempt to give students further direction, where needed. A month or less before final project were due, students would also be required to submit a draft of their work-in-progress for comments.

The project cycle would end during the last two regular class meetings during the semester. During these meetings, class would be replaced by student poster presentations. In each session, half the students would present their projects, while half the students would act as judges, rotating from project to project every 10 minutes. To facilitate the session, each student would create a PowerPoint presentation describing or summarizing his or her project, and would paste printed copies of the slides on a poster board (of the type used in science fairs). Student assessments, as well as Gill's own assessment, would be used in grading the projects.

In spring 2012, the best poster presentations would have one additional evaluation. The decision had been made to take the strongest 5-10 presentations and use them to create a mini-science fair for the department's Executive Advisory Board (EAB). That group of over 20 high level IT executives and CEOs from the Tampa Bay region would be meeting the Friday after the final class and had expressed a strong desire to see student work. The plan was to have a competition during that meeting with prizes being awarded to the top projects. Student participation in this activity would be voluntary, but strongly encouraged since it would provide a great networking opportunity for those invited.

Evaluation Plan

The final element of the redesigned course was built around evaluating learning. There were two types of learning that the course needed to evaluate. The first was learning that had taken place during the course itself. The second was learning that had been accomplished over the course of the MIS major as a whole.

Evaluating Learning in the Course

A particular challenge presented by the case method is assessing what has been learned as a result of a series of case discussions. By their nature, case discussions focus on carefully evaluating the choices presented by a specific situation. As a result, the cases may involve very different settings. For example:

- *The industry may vary*. For example, some of the cases prepared for the first course offering included situations involving market research, emergency management, financial services, farming, encryption, IT services, web hosting and construction consulting.
- *The type of decision may vary*. For example, some cases involved general business strategy, choosing business models, identifying potential product markets and product pricing.
- *The nature of the organization may vary*. For example, some cases involved individuals, some involved small business, and some involved non-profit organizations.

Because of this variation, it is very hard to test specific content covered in the course. Although some schools, such as HBS, used case studies as the basis for exams, even this approach had its weaknesses. Even experienced students bonded with some cases more than others. It was hard to determine if exam performance represented overall learning, or a particular level of interest in the case presented.

Gill chose to address the question of learning in two ways. First, the student performance in the discussions, the pre-case questions and the post-case questions would all become part of an overall participation grade. This grade would be determined for each student, although Gill had yet to decide how much weight each element would get, or how much overall participation would count towards the student's final grade.

The second type of evaluation was more experimental. In consultation with a member of the faculty team involved with the NSF grant, he arranged to conduct a pre-test and a post-test using an NSF-developed instrument intended assess improvements in student problem solving ability. The pre-test would be given on the first day of class. The post-test would be given during the designated final exam period. These would then be analyzed by outside graders, rather than by Gill, to ensure the measurements were objective. Because of its experimental nature, and because he was not going to be directly involved in the grading, Gill felt that each student should be given credit completing the instrument, rather than for their score.

Evaluating Learning in the Major

Assessing what students have learned over a two-year course of study presented a different challenge. Since each student had different interests and strengths, the fairest approach seemed to be letting each decide how he or she could best demonstrate skills acquired in the major. Hence, the project component of the course.

Evaluating projects, like participation, tended to be subjective. Gill had decided to employ three different approaches for the first offering of the course:

- He would evaluate each project
- Each student would evaluate half the projects, with their scores being combined
- Members of the EAB would evaluate the top projects, as a way of assessing if the undergraduate major was performing well overall.

The first two of these Gill planned to incorporate in the project grade. The last would be used mainly for departmental purposes, to determine how well the major was working. Students invited to and participating in the EAB presentations would, however, receive some extra credit.

ISM4300 Grading Issues

Although the evaluation plan identified the elements of the course that would be evaluated, it did not specify how each measure would contribute to a student's grade. There were three key issues that needed to be addressed: overall weighting, use of a rubric and deadlines.

Overall Weighting

The overall weighting decision involved determining how much weight should be given to in-class participation and how much should be given to project performance. While the weight of each component would be substantial, Gill was indifferent with respect to which was given greater weight. For simplicity's sake, he proposed 5 options:

1. 70% (participation) and 30% (project)
2. 60% (participation) and 40% (project)
3. 50% (participation) and 50% (project)
4. 40% (participation) and 60% (project)
5. 30% (participation) and 70% (project)

He was comfortable letting the class choose which of these weightings was to be employed.

Use of a Rubric

Even when overall weighting for the two course elements had been established, there remained the question of how to allocate points within each area. One approach involved using a very specific rubric, with points for each activity. For example, participation might be weighted:

10% for completing NSF evaluations (ungraded)

20% for pre-case written evaluations (graded S, E, W)

50% for in-class contributions (graded S, E, W)

15% for post case reflections (graded S, E, W)

5% for case evaluation forms (ungraded)

One question that Gill had was how students would prefer such weightings—heavily weighted towards the classroom participation or weighted towards the written component.

Similarly, for projects the grade might consist of:

20% for the proposal

10% for the project draft

50% for the final project write up

20% for the project poster

Again, Gill wondered about the preferred weighting—heavily weighted towards final project write up or towards the other project deliverables.

The advantage of a clearly defined rubric approach is that it would allow students to know exactly where they stood, and would reduce the degree to which Gill's biases might influence the grades he assigned.

On other hand, weightings could be more flexible and, perhaps, different for each student. This might work to a student's advantage who happened to be particularly strong in one area, but weak in others. It would also make the grading far more subjective, however.

Gill did not particularly care which philosophy students chose, but he hoped that they would choose carefully.

Deadlines

Some deadlines within the course were not negotiable: a given case had to be prepared by the student before it was discussed, projects needed to be completed before the poster sessions, and all work needed to be submitted before the end of the semester. There were, however, some areas of the course where deadlines—within limits—were somewhat arbitrary. These included:

- The project proposal deadline
- The deadline for the first project draft
- The due date for the reflections and evaluations that needed to be submitted after each discussion

There were a number of different ways that these deadlines could be handled. First, they could be absolute—with no exceptions. Second, late assignments could be accepted with a penalty. Third, late assignments could be accepted with no penalty. While the last of these offered the greatest flexibility, it also presented the greatest risk to procrastinators. Gill was happy to live with any of the three approaches, but would consistently apply whatever policy was chosen.

ISM4300 Online Classes

Another potential decision that needed to be made was if any Ism4300 classes would be held online. In his graduate class, Gill had designated two days for online discussions, allowing students to vote on whether a third class should be held online. For the undergraduate capstone, however, his original plan had been to hold all the sessions in the classroom.

The potential problem with eliminating any online sessions was that some cases involved protagonists from out of town (e.g., Boston, West Palm Beach). Most likely, these individuals would drive to Tampa to sit in on a single class. If, on the other hand, the discussion were to be held online via Elluminate—the tool provided by USF for holding classes online with audio and a shared whiteboard—these individuals might be able to listen to, then comment upon, the discussion.

Gill saw three potential options:

- Hold all classes face-to-face
- Schedule one or more specific classes online
- Schedule those classes online that involve protagonists who want to attend but cannot travel to Tampa

One aspect of holding classes online was could either be a problem or an advantage was the fact that students would generally have to link in from their home computer. Unfortunately, feedback and time lag problems prevented Elluminate from working well when a bunch of people were using it in the same room (i.e., the classroom). There was also a learning curve for students who had never used Elluminate. Gill wondered if this might be a problem.

Generally speaking, the students in the graduate capstone course had preferred classes be held online by a fairly wide margin (about 70-30). Nearly all of them worked full time, however. Gill had no idea what the preference of undergraduate MIS majors would be.

Finalizing the Course Syllabus

In a typical course, decisions relating to grading, deadlines and online sessions would be finalized before the first session. But the revised Ism4300 was not your typical course! Thus, Gill felt that the best way to make the decisions described would be to involve the students themselves. Thus, after discussing the case in class, he planned to have the students fill out the online form shown in Exhibit 5. Based upon their responses, he would fill in the to-be-determined (TBD) blanks and post the completed syllabus.

Exhibit 1: Undergraduate MIS Curriculum at USF

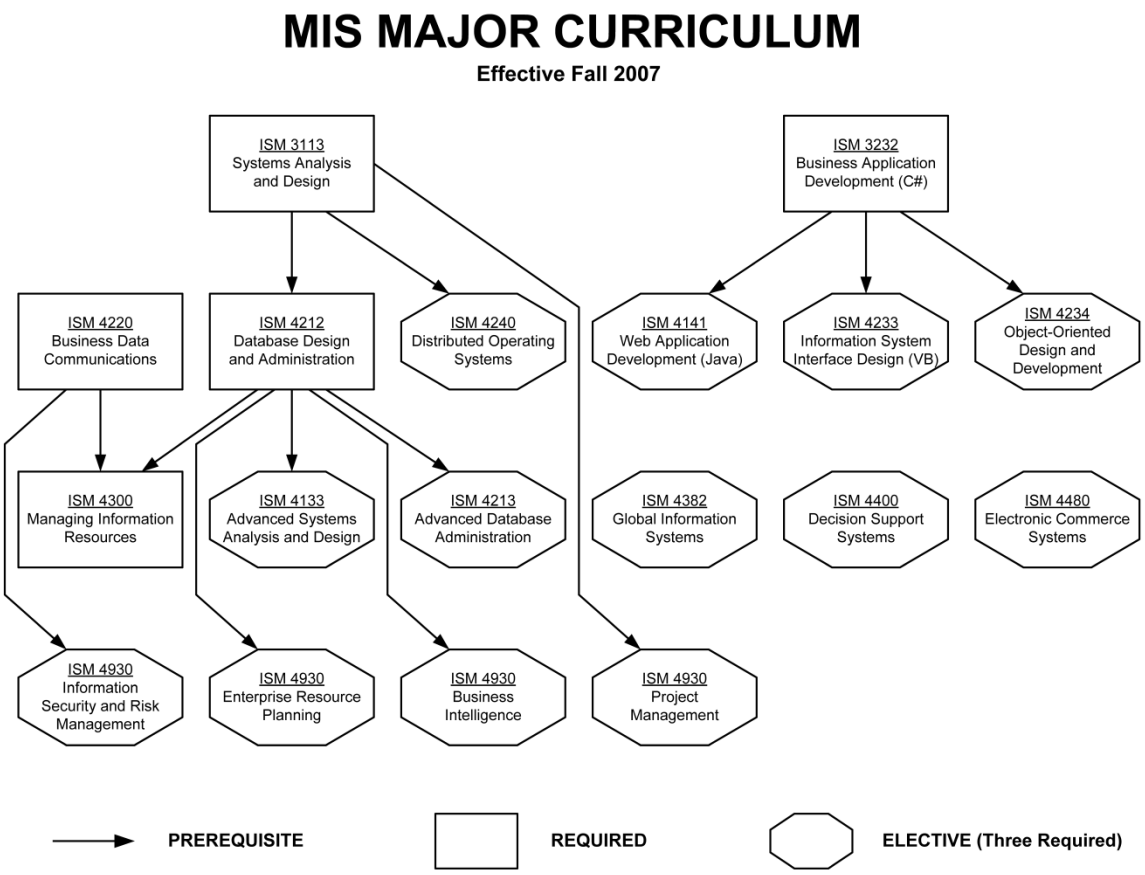


Exhibit 2: Fictionalized Case Discussion

Example: The Case Method at HBS

Imagine yourself sitting in a horse-shoe shaped amphitheater-style classroom with about 80 other students. It is about two minutes before the hour when class is scheduled to start. Friends and not-so-friends are scurrying to their seats, perhaps pressed for time as a consequence of the long lines that sometime form between classes for the Aldrich Hall restrooms.

The instructor, a distinguished looking woman in her mid-40s, is already at the front of the classroom poring over an array of papers laid out across the desk. There is no podium as you might see in a typical classroom. There is, however, a custom designed white board with many layers that can be moved up and down to allow a huge area to be exposed.

As you look down at your case, a 25 page single-spaced document that consists of about 10 pages of single-spaced text followed by 15 pages of charts, tables and clippings (from news sources, annual reports and the web), your palms begin to sweat. There were so many facts in the case that half of the text was highlighted by you as you prepared it in the previous evening. Unfortunately, this is too much of a good thing. There is so much highlighting that it no longer serves the useful purpose of helping you to identify relevant facts should you be called upon to do so. You then turn to the one and a half page outline developed by a member of your study group: Jing Lee, chosen because he had done his undergraduate degree at the University of New South Wales. You started wishing that it had been you—not he—that had created the outline. When you discussed the case last night, your group had collectively identified three options that the company, a bauxite mining and processing operation in Australia called AluminAux Ltd., could pursue in order to move forward. Jing had chosen the more conservative option, which was less risky since it did not require a major investment. Your own preference, on the other hand, involved establishing a new joint venture with a Nigerian company in order to gain a distribution foothold in Africa—despite the obvious risks of doing business on that continent. Unfortunately, Jing's notes offered little concrete support for your position; during the group meeting you'd scribbled some comments in the margin, but now you wonder how effectively you could open with them. You look forward to the afternoon's case, involving a financial services VP who finds himself questioning whether a particular investment vehicle is ethical. For that case, you were the one who had prepared the outline. You are confident that you have that one nailed!

The class goes silent and your pulse races. The professor scans the room. Her gaze fixes on you for a moment, but then her eyes move upwards, towards the top, most distant row of students (affectionately referred to as the skydeck).

> Mary, what would you advise the CEO of AluminAux to do?

Immediately, you feel a sense of release. Although some professors prepared a set of study questions for each case, this instructor does not. Thus, you never knew what you will have to respond to when she cold calls you.

You feel considerable sympathy for Mary, who has been quiet most of the semester, as she opens. From the tremor in her voice, it is clear that she is very nervous. Nevertheless, her presentation is well organized—clearly indicating her preference for the same African option that you chose. Her country analysis, however, seems to drag on. The professor seems to think so too, first giving Mary a quizzical look and then, finally, asking:

> I hate to interrupt, but is this taking us anywhere?

You turn back towards Mary and see the tension in her face. Hastily, she completes the analysis in a few seconds then states her conclusions in rushed fashion. As soon as it is clear she is about to end, ten hands go up throughout the classroom.

Yours is not one of them. This particular course, focusing on international business, has generated a lot of participation—perhaps because your section is over 25% international in its makeup. While all your classes treat participation as 50% of the student's grade, in some classes it is relatively easy to contribute. In this class, it is definitely not. Thus, you only raise your hand when you have something specific you *really* want to say.

As a result, you have mixed feelings about Mary's opening. With competition for air time being so intense, it would have been nice if the opener had taken a position you could disagree with—your contributions to the discussion have a lot more impact when you disagree with the consensus than when you agree. On the other hand, Mary has had a tough time motivating herself to participate throughout the semester, since she readily admits that public speaking and confrontation are not her forte. Thus, you are glad that you are not in the position of being forced to try to refute her points.

So you wait. A few of your classmates make inconsequential comments of agreement and your attention starts to wander. Then the instructor calls upon Jerry…

Jerry, with a Yale undergraduate degree and five years of experience working at a New York investment bank prior to enrolling at HBS, is one of the section's stars in participation. Aggressive to the point of arrogance, he seems to take particular delight in demolishing the arguments of others, even those who are weaker participants. Within the section he is greatly admired, though not particularly well liked.

And so the process of taking apart everything that Mary concluded in her opening begins. He questions her assumptions about the potential profitability of the Nigerian joint venture. He argues that she vastly underestimated the cash flows that could be derived from the more conservative strategy. Most importantly, he asserts that any Nigerian venture must be negotiated with public sector involvement—that involvement in the private sector is simply too risky.

Instantly, your hand shoots up. You look directly at the professor with a transparent, and somewhat theatrical, look of desperation on your face. She catches your eye and gives an almost imperceptible nod. You relax—you will be the next student calls because she knows exactly what you are going to say. You quickly flip your case to the proper page and a few seconds later she points to you. You begin:

> I am not sure that Jerry has taken into account Exhibit 4. If he had read the text closely, he would have noticed the following…

You begin to read a block of text that describes the potential Nigerian partner's role as their Deputy Minister of Finance for nearly a decade and his close relationships with the existing Prime Minister, who came from the same region of the country as he did. You sum your comment, which takes less than a minute in total, with the following:

> Although it does not explicitly state this in the case, I think this evidence strongly indicates that the proposed venture is being designed and sanctioned by the current government, and that its risk is therefore acceptable.

You hear some giggles from around the classroom. You shoot and you score, you think to yourself. Jerry immediately raises his hand to rebut you, but is thwarted by the professor who says:

> Given the support of the Nigerian government, what other risks do we need to worry about in analyzing the joint venture?

Nadia raises her hand and begins to discuss the question. Her presentation is not well organized, however, and seems to be an effort to point out all of the points she wanted to make, regardless of relevance. The professor recognizes this first, and begins to signal the fact by the manner in which she adds to the

evolving outline on the classroom's boards. As the student makes each point, the professor scurries over to a different place in the board, using an exaggerated style of walking. Then she raises her hand to signal the student to pause, while she lowers one of the boards already filled and adds a comment to table that already has a similar one. At this point, Nadia recognizes the non-verbal message the instructor is communicating and quickly completes her contribution.

The discussion continues to flow around the potential risks of the joint venture. With about 20 minutes to go, the professor calls on Kassim—the section's only Nigerian student. His hand has been up and down for most of the discussion; thus, the choice to delay calling on him was probably a conscious choice on the professor's part, although you can never really know.

Kassim, in a deep voice accented by his Oxford education, begins to discuss the current situation political in Nigeria. Specifically, he points out that the recent discovery of a large oil field, sitting on the border of Nigeria and two of its neighbors, has produced severe regional tensions. Indeed, there is some fear that it may escalate into war. He concludes by saying:

> Thus, it would be a mistake in the current situation to believe that Nigeria would be a good choice as your gateway to Africa. While I believe that AluminAux can successfully enter the African markets, now would not be the time for to attempt that with a Nigerian partner.

He has, of course, completely demolished your point. Knowing that, were you making this decision you would have certainly opted for the safer option. Nevertheless, Kassim's statement does not disturb you. The fact was not in the case, nor was it known at the time of the case. Reality may undermine your conclusions, but the only reality that matters is that which appears in the case.

Having scarcely spent 3 minutes speaking for the first hour of the class, the professor now takes control. Interestingly, her summation centers around Kassim's point. Her particular perspective is that we, as managers, need to be particularly attuned to the possibility that events can radically change the competitive landscape. Thus, we need to consider the completely unexpected in assessing possible outcomes, and not become fixated on what our projections tell us.

As she wraps up, it becomes clear that she is not planning to tell us what decision the company actually made. Jerry raises his hand and asks. She replies:

> The company chose a variation of the less risky option presented in the case.

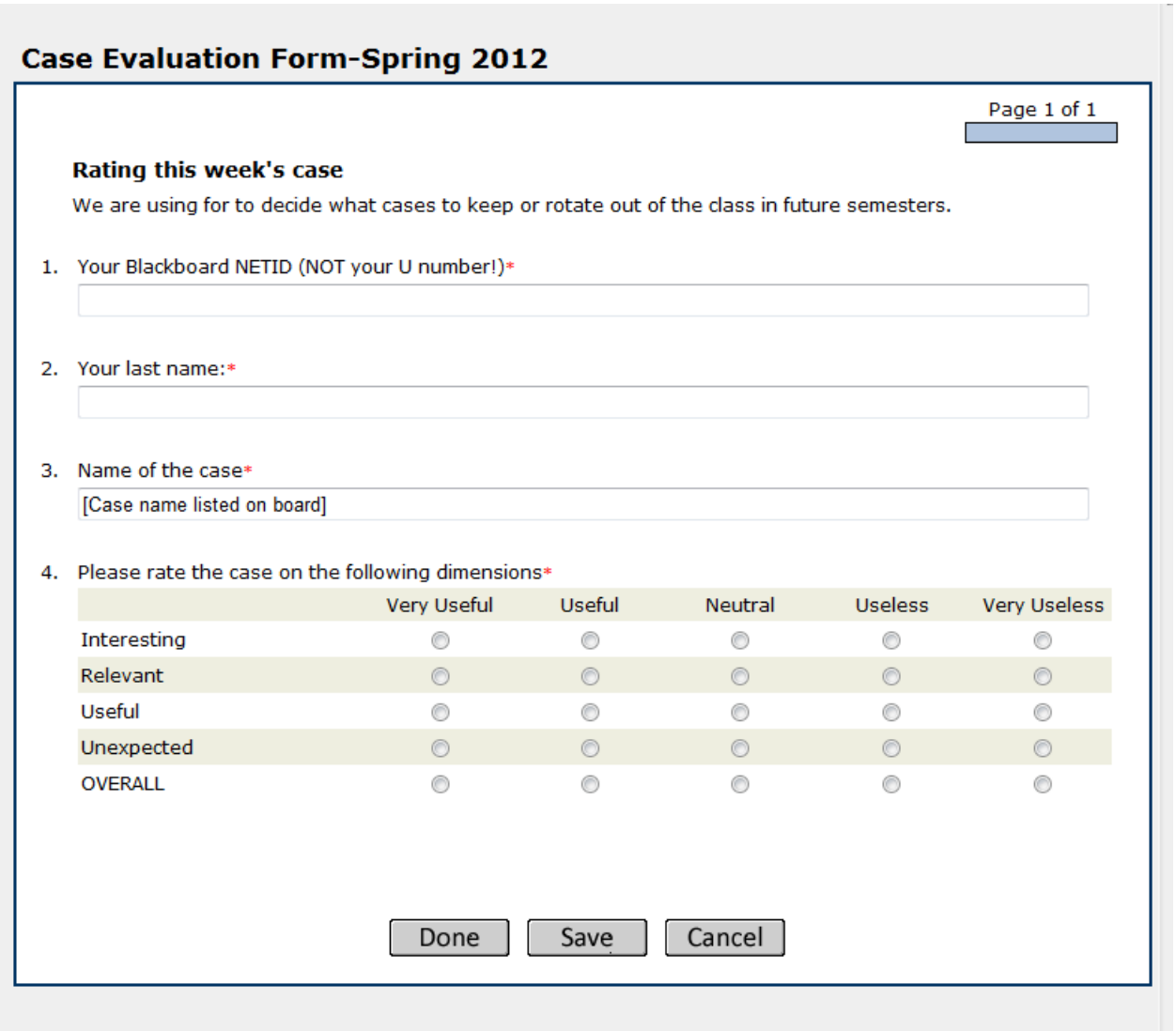
Jerry smiles knowingly at you, acting vindicated. The professor continues:

> Unfortunately, the rapid increase in the value of the Australian Dollar against the Euro, the Dollar and the Yuan that occurred last year meant that their margins were squeezed below break-even and, as a result, the company is now in the Australian equivalent of Chapter 11.

You smile back at Jerry.

Source: Gill, T.G. (2011) *Informing with the Case Method: A Guide to Case Method Research, Writing and Facilitation*. Santa Rosa, CA: Informing Science Press, pp. 6-10.

Exhibit 3: Case Evaluation Form



Case Evaluation Form-Spring 2012

Page 1 of 1

Rating this week's case

We are using for to decide what cases to keep or rotate out of the class in future semesters.

1. Your Blackboard NETID (NOT your U number!)*

2. Your last name:*

3. Name of the case*
   [Case name listed on board]

4. Please rate the case on the following dimensions*

	Very Useful	Useful	Neutral	Useless	Very Useless
Interesting	○	○	○	○	○
Relevant	○	○	○	○	○
Useful	○	○	○	○	○
Unexpected	○	○	○	○	○
OVERALL	○	○	○	○	○

Done Save Cancel

Exhibit 4: Project Description from Course Syllabus

Project Elements

Project types
The purpose of the project is to demonstrate some technological or research skill that you have acquired over the course of the MIS major. The project is individual (no group) should involve substantial complexity and will generally center around one of the following areas:

- *A programming project:* A stand-alone or web-based project that involves substantial coding in a programming language such as C#, VB or Java. Mobile apps or web-based projects involving PhP or some other environment (ASP, Ruby-on-Rails) will also be allowed.
- *A database project:* A project built around designing an SQL-based database (as well as related forms, queries and reports) for a particular business situation. Real-world or test data may be used.
- *An analysis and design project:* A project built around designing a system or application. Appropriate diagrams (ER, UML) should be prepared, along with form layouts, business process diagrams and project plans.
- *A real-world web site*: For pure web site projects, a real-world client is required. Such a client may be identified by the student or, from time to time, may be supplied by the instructor. A thorough needs analysis and approach to determining the effectiveness of such a site will be required for this category of project.
- *A real-world case study*: Students working in business or facing complex career decisions may choose to develop a case study that is intended for use in subsequent offerings of Ism4300. These projects will need to be developed in close collaboration with the instructor and will necessarily demand a very high standard of quality.
- *A research white paper*: An in-depth research paper—20 pages in length or more—that explores a particular technology, such as WiMax, or MIS issue, such as outsourcing. *Safe Assignment* will be used to ensure that the work is original. You should have a substantial number of sources and should cite them.

Project meetings
Throughout the semester, I will meet with students after class to discuss the progress of their project proposals and their projects.

Project proposals
Early in the semester, students will submit project proposals. Forms for different projects types will be provided on Blackboard. I will provide comments on these proposals, and approve them when they are in a form that makes sense. *Students should not begin their projects until they have approval.*

Project drafts
A month or so before the end of the semester, students will be required to submit a draft of their project that includes all their work to that point. I will grade and comment on the draft. Students are encouraged to incorporate these comments into their final work.

Final projects
Students will submit their final project by the day specified (the first poster session date). A typical project report will contain:

1. A short (1-2 page) written summary of the project
2. PowerPoint slides to be used in the poster presentations
3. Source code and/or diagrams (for technical projects)
4. A written document (for research, white paper or case studies)

These will be uploaded to the designated assignment area in Blackboard.

Poster presentations
Each student will prepare a PowerPoint presentation describing his or her project. The individual slides will be posted on a "science fair" style board. (For database, programming and other "runnable" projects, computer versions should also be available). Half the class will present during each poster session, the other half (and me) will act as "judges" using a rotation scheme akin to "speed dating".

Presentation peer evaluations
Half the students—the ones not presenting—will evaluate each student's poster during the poster session using forms that I will provide. *These forms will be evaluated*, and will be used in evaluating the projects.

Executive Poster Competition
6-10 of the best poster presentations will be selected for presentation at the meeting of the IS&DS Department Executive Advisory Board. This board consists of, over 20 of the top IT executives in the Tampa Bay area. Participation is voluntary, but will be given extra credit. The presentation will be in the afternoon, on:

Friday, April 27th, 2012

More details will follow as they become available.

Project grading
Projects will be graded based upon the difficulty of the project and the quality of its components. Presentation peer evaluations will be included in this assessment.

Exhibit 5: Syllabus Completion Form

Syllabus Completion Survey

1. Choose your preferred balance between participation and project*
   - 70% Participation and 30% Project
   - 60% Participation and 40% Project
   - 50% Participation and 50% Project
   - 40% Participation and 60% Project
   - 30% Participation and 70% Project

2. How do you want elements of participation and project to be summed?*
   - Using a strict rubric with points for each item
   - Using a flexible scheme

3. For your participation grade, which weighting would you prefer?*
   - Heavy on the classroom discussion
   - Balance of discussion and written work
   - Heavy on the written forms

4. How should the project grade be determined?*
   - Heavily weighted towards project report
   - Balance of report and other deliverables
   - Heavily waited towards other deverables (e.g., proposal, draft, poster)

5. How should deadlines be enforced?*
   - Strictly, with no late submissions accepted
   - Late submissions accepted with penalty
   - Late submissions accepted without penalty

6. Should some classes be held online?*
   - No, all classes should be in the classroom
   - Yes, but only if scheduled at the beginning of the semester
   - Yes, whenever we have a visitor who wants to attend online