

Using Google AdWords in the MBA MIS Course

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ABSTRACT

From February to June 2008, Google ran its first ever student competition in sponsored Web search, the 2008 Google Online Marketing Challenge (GOMC). The 2008 GOMC was based on registrations from 61 countries: 629 course sections from 468 universities participated, fielding over 4000 student teams of approximately 21,000 students. Working with a real-life client, student teams planned, executed, and assessed a three-week online marketing campaign using Google AdWords, all funded by Google. In this article, we share how the GOMC augmented a Master of Business Administration, Management Information System (MIS) course, providing each class team with a unique, experiential, electronic-commerce project. Student feedback shows that the projects stimulated student interest in technology and marketing as well as provided experience with creating effective ad campaigns and direct marketing via the Web, specifically with the Google AdWords platform. In this article, we provide a brief explanation of sponsored search, an overview of literature on pedagogical use of experiential team projects, a discussion of how the project provided tangible illustration of traditional MIS topics, and address why this type of exercise is well-suited for a class project format. Based on our experience, we will offer advice on what worked, what did not, and recommendations for the future. The article should be of interest to educators who might consider participating in future GOMCs, as well as others who might consider the inclusion of Google AdWords (or similar program) as a pedagogical tool in their curricula.

Keywords: Sponsored Search, Search Advertising, Paid Search, AdWords, Experiential Learning, MBA Curriculum, Management Information Systems

1. INTRODUCTION

Sponsored search is an innovative information seeking paradigm of growing global economic impact. This article discusses a vehicle to explore this unique medium as an educational opportunity for students and professors. Based on registrations from 61 countries, 629 courses from 468

universities participated, fielding 4,317 student teams of approximately 21,585 total students, the Google Online Marketing Challenge (GOMC) may be the largest, worldwide educational course ever done.

Unlike many student competitions that simulate real world conditions or craft hypothetical marketing plans, students participating in the GOMC developed and

implemented online marketing campaigns for real clients and spent real money. Each student team received US\$200 in AdWords, Google's flagship advertising product that accounts for over 90 percent of Google's revenue, to drive online traffic to a small-to-medium-sized enterprise (SME) website. During the three-week contest, students accessed detailed, individualized reports and adjusted their campaigns accordingly. In addition to the hands-on experience conducting online marketing campaigns, students gained the experience of acting as information and marketing professionals for SMEs.

Another difference from many other student competitions is a focus on the educational experience. In addition to competing on campaign metrics, the student teams submitted a written report that addresses four pedagogical areas: (1) learning objectives and outcomes; (2) group dynamics and client dynamics; (3) evolution of their campaign strategy, and (4) future recommendations for the client.

An important goal of higher education is helping students grasp the relevance of topics discussed in the classroom. A complementary goal of many professors is to develop positive liaisons with the local organizations. Similarly, many universities struggle with ways to become relevant in their local communities. A project such as this can assist in achieving all of these goals.

The GOMC is amazing once you think about it. More than 600 sections from nearly 500 universities from all over the world all using the same textbooks (provided free by Google to the students), the same general course outline (designed by Google and an academic panel of professors, provided to professors free of charge), the same exercise (designed by Google with input from the academic panel), and the same grading criteria (designed by Google with input from the academic panel). In comparison, many colleges have trouble getting three sections of the same course to use the same book, exercises, and grading criteria!

The GOMC is a real-life, problem-based, and multidisciplinary educational endeavor of the kind that many educators say they need to relate teaching to outside the classroom. After a brief review of the academic literature on sponsored search and experiential learning in the classroom, we will summarize the logistics of the GOMC and explain the basic concepts of sponsored search that students mastered in their projects. We will then relate our experience in the classroom with GOMC, and evaluate how well it fits into the MBA MIS course, although the findings can apply to many types of courses. We will finish with guidelines for getting the most out of the GOMC as a semester course project in the future.

Before we begin, we want to acknowledge that both Microsoft and Yahoo offer a search advertising capability that could also be used in the classroom. Thus, implementation of sponsored search as a pedagogical tool is not tied to one company, such as Google. However, given Google's overwhelming share of the search market, and the amount of pedagogical support offered, we see little reason at this time to prefer another program over Google's AdWords product.

2. LITERATURE REVIEW

2.1 Sponsored Search Review

Sponsored search, also known as keyword advertising, paid search, pay-per-click (PPC), or search engine advertising, as of mid-2008, was estimated to be an 11.5 billion dollar market in the U.S. alone (Associated Press, 2008). The global market is predicted to have a 37 percent compound annual growth rate to more than \$33 billion in 2010 and has become a critical component of many firm's marketing campaigns (Ghose & Yang, 2008). Not only has sponsored search become a significant part of worldwide commerce, but it also funds the Web search services that have become a part of our daily lives. Revenue from PPC advertising is what allows search engines to provide Web search services to the consumer for free. Thus, sponsored search has become an important topic to for all business students, regardless of major. A recent collection of articles on sponsored search provides a variety of perspectives and a general overview and history of the topic (Jansen, 2006).

In a typical scenario, a consumer looking for information will use a Web browser to access a general purpose Web search engine such as Google. After the consumer submits their *query* (words describing their information need, typically one to three words (Jansen & Spink, 2006)), the search engine returns a list of the results of the query. A result is a brief *surrogate* for a Webpage that the search engine has matched to the query. Each result normally consists of the title of the Webpage, a two-to-three line text description, and the Web address of the page.

Sponsored advertisements typically appear as specially labeled results on the search results page, usually at the top or the side (see Figure 1), and like the normal (or "organic") search results on the same page, they are triggered by the specific words in the query typed-in by the consumer. Clicking on an ad takes the consumer to an advertiser's webpage. Jansen (2007) found sponsored search results to be equally relevant as organic Web search engine results to study participants.

Advertisers go through an auction process to determine which advertisers' ads run in which positions on which pages and at what prices. Advertisers bid how much they are willing to pay for an ad to be delivered in response to specific words in the consumer's query. Given that there is limited space for ads on a search results page for any given consumer query, an advertiser's bid on specific words or phrases determines whether an ad appears, and it's placement on the page. High ad placement or *ranking* is desirable, as it greatly influences the probability that the ad will be clicked on (Laudon & Traver, 2007).

With the exception of online auction strategy and algorithms, academic research on sponsored search is sparse. Laudon and Traver (2007) use the term *keyword advertising* to describe sponsored search as one of three types of search engine marketing. They describe the benefits for both merchants and consumers. They ascribe its popularity to the fact that ads only appear when consumers are looking for specific information. Jansen and Mullen (2008) provide an information-seeking model of sponsored search, as well as a history of the auction process. Despite the apparent success of search engine advertising, research on e-commerce

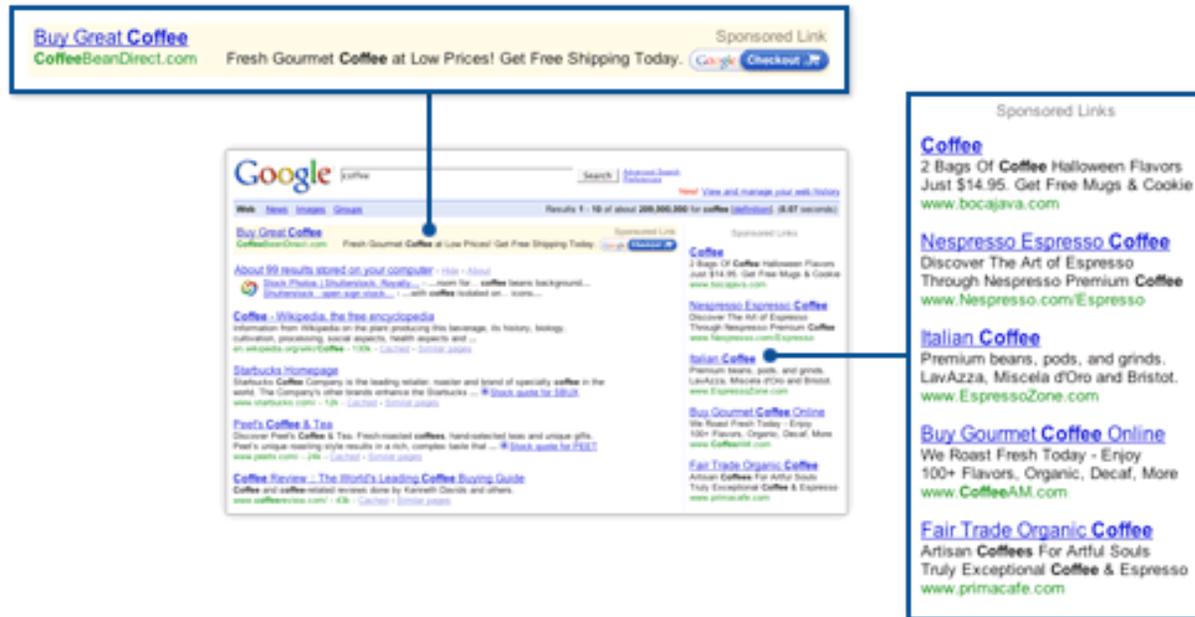


Figure 1. Sponsored search results with Google AdWords: Google displays relevant AdWords above and to the side of search results (<http://www.google.com/onlinechallenge/adwords.html>).

information seeking has shown a consumer preference for organic results over sponsored ones (Jansen, Brown and Resnick, 2007). Given the proprietary nature of corporate marketing information, specific case study research is virtually non-existent. Turnbull and Bright (2008) studied the use of sponsored search in promoting an academic department of a university. Eysenbach (2006) demonstrated how information gathered from a sponsored search campaign could be used by public health officials to track the spread of outbreaks of highly contagious illnesses like influenza at relatively low cost.

2.2 Experiential Learning Review

As educators with over 50 years of combined experience in the classroom, we have observed our students benefit from 'real world' projects. Initially, many students are fearful and uncertain when they realize the course includes an experiential learning component in which they work with real businesses on a current business issue. However, the fear and uncertainty turn to excitement and engagement when students begin to apply their knowledge and realize they can make meaningful contributions to the organization. We observe students demonstrating a higher level of comprehension for project related course content. In addition, students have attributed obtaining employment to the experience gained through 'real world' course projects. In looking at the literature, we find our experience echoed in the writings of others.

Evelyn and Cathie (2002) provide evidence that students learn more effectively with projects. Gilbert and Andrew (2004) report problem-based / problem-centered approaches engage students. Students recognize the relevance of textbook material once they have the context of a real-world project for an actual business client (Aytes & Beachboard, 2007; Gilbert and Andrew, 2004). Brady (2008) and

Navarro (2008) suggest incorporating an in-depth, real-world problem rather than devoting the class to a broad coverage of diverse topics; students develop higher-order critical thinking skill when their education includes experience with complex, real world projects. Semester-long projects provide an opportunity to put concepts and definitions into practice, hone teamwork skills, engage in critical thinking, and practice research, analysis and communication skills (Munoz & Huser, 2008).

Much has been written specifically about the need for experiential learning in IS education.

"If students are to "get their money's worth" from the classroom experience, it is important that as much valuable classroom time be spent on higher level analysis, integration, and experiential education rather than the simple mastery of basic course principles." (Navarro, 2008, p. 118)

"A commonly heard question is something to the effect that "If they know all this stuff, how come there are still so many problems [with IT management]?" The problem, as we see it, is that the textbooks very capably provide "know-what" but find it difficult to impossible to adequately convey "know-how."...Students lacking a sound experiential framework have a difficult time comprehending the challenges presented in implementing these prescriptions in practice. The pedagogical challenge then, becomes one of providing students with an experiential learning opportunity where they can evaluate their new knowledge in a "real world" environment." (Aytes & Beachboard, 2007, p. 372)

Navarro (2008) identifies experiential learning and multi-disciplinary integration as desired features of an ideal MBA core curriculum. However, his survey of top business

schools did not find an emphasis on experiential learning and/or multi-disciplinary integration: a curious finding given that AACSB accreditation standard #18 specifies that master's level learning be "developed in a more integrative, interdisciplinary fashion than undergraduate education." (AACSB International, 2008, p. 74). The GOMC is a vehicle that can provide that multi-disciplinary integration and experiential education as part of the MBA MIS core class.

Employers prefer to see educational assessments based on real-world projects and applied learning constructs such as supervised internships, community-based projects, and/or senior comprehensive projects to gauge student ability to integrate and apply knowledge (Hart Research Associates, 2008). Often real world projects include working in teams, interacting with clients and utilizing communication skills. The Wall Street Journal 2007 survey of recruiters once again finds that employee attributes most desired by employers are interpersonal skill, communication skills, and teamwork (Alsop, 2007).

The literature on learning styles and on effective pedagogy also advocates experiential learning. Numerous assessments of college students with Myers-Briggs suggest most college students are sensing learners. Sensing learners benefit from direct, concrete experience such as a real-life project for a real-world client (Schroeder, 1993). Contextualizing a problem, such as having a local business engage in a sponsored search strategy, is a demonstrated effective pedagogy (Tharp et al., 2004). Active learning is instrumental in the development of life-long learners (Mayhew, Wolniak & Pascarella, 2008).

3. LOGISTICS OF THE GOOGLE ONLINE MARKETING CHALLENGE (GOMC)

Before describing how the GOMC was integrated with the course content in our MBA MIS course, here is a basic explanation of how the GOMC and Google AdWords campaigns are structured.

First, professors registered their classes for the GOMC on the Google Website (URL for 2009 - http://services.google.com/events/marketing_challenge_2009). Professors divided their class into teams which would compete against teams from around the world. Each team then partnered with a client organization. An eligible client for the GOMC employs less than one-hundred people, has a Website, and does not use Google AdWords.

Each team worked with their client to establish an online marketing plan that included a three-week online advertising campaign. To accommodate the global nature of the GOMC, a team's campaign could run any three consecutive weeks during the February to May time frame (later extended through June). Google provided each team with two-hundred U.S. dollars to fund their campaign.

Teams created AdWords accounts online and as a result were assigned account numbers. Professors then submitted their teams' account numbers to Google, so their campaigns would each receive the \$200 credit.

Before the campaign, each team produces a report which assesses the client's marketing opportunity and maps out the campaign strategy. During the campaign, the teams use

online data provided by Google AdWords to adjust their advertising parameters in real-time, in order to optimize their campaign's results. After the campaign, the team's final report reflects on learning outcomes and objectives, group and client dynamics, the evolution of the campaign strategy, and client recommendations.

For 2008, one global winning team and three regional winners (for the Americas, Europe/Middle East/Africa, and Asia/ Pacific regions) were announced. Additionally, the remaining top fifty teams in each region were named as semi-finalists. Winners were selected based on a multiple layer review. First, Google did an algorithmic evaluation of the teams' campaigns to select 150 teams. Then, Google experts manually reviewed each of these 150 campaigns, narrowing the field to 15. Finally, an academic panel evaluated the two reports of these 15 teams to select the winners.

3.1 AdWords Advertising Campaign Basics

Campaigns are structured as follows. A campaign consists of one or more ad groups. Each ad group should focus on a single product or service. An ad group contains one or more ads, and one or more related keywords. If there is more than one ad in a group, a campaign can have the ads rotated evenly, or optimized so that ads with higher click-through rates run more frequently.

An ad consists of a (25 character or less) headline, a (35 character or less) two-line description, and a URL that indicates the landing page. The landing page is the Webpage that the consumer is shown after they click on the ad. See Figure 1 for a sample ad (on the right-side and top of the search engine results page).

Keywords are the query terms or phrases that can trigger ad placement on a search results page. When Google's algorithm determines that an advertiser's keyword has matched a consumer's query, an ad from the keyword's ad group is displayed (assuming that the advertiser's bid on that keyword is high enough vis-à-vis other advertisers' bid on that keyword).

Frequently updated statistics on a campaign are provided through AdWords campaign management tools. Using this data, campaigns in progress can be optimized in many ways, for example, creating new ad groups, creating new ads, modifying existing ads, adding or deleting keywords in ad groups, and changing bids on keywords, to name just a few.

4. INCORPORATING THE GOMC INTO THE CLASSROOM

4.1 The Course Setting

Like many MBA curricula, the evening/weekend program at North Carolina Central University (NCCU) has one required course in Management Information Systems (Navarro, 2008; Shore & Briggs, 2007). The program graduates approximately 20 students per year. Most work full-time locally and take 2 to 3 courses (three hours each) per semester. Students typically complete the program in 2-3 years. Students can also enroll in joint degree programs in law (MBA/JD) or information sciences (MBA/MIS).

The MBA MIS course functions as a service course for the program as students are primarily working adults who

have little background in information systems (IS), and are typically not pursuing IS-related careers. The course also occasionally attracts a few non-MBA graduate students from the Schools of Law and Library & Information Science. Course content is necessarily broad and basic, focusing on what business people need to know about IS. It is not a hands-on application tools course but rather covers much of the content recommended by Ives and thirty-nine IS colleagues (Ives et al., 2002) in an open “letter” to the AACSB (see Table 1). A catch phrase frequently used in class sessions to describe the course is “the use of technology to solve problems and create opportunities in an organizational setting”.

What Every Business Student Needs to Know (expanded into more specific Learning Objectives in Ives et al., 2002)
What are information systems?
How do information systems influence organizational competitiveness?
Why have databases become so important to modern organizations?
Why are technology infrastructures so important to modern organizations?
What is the role of the Internet and networking technology in modern organizations?
What are the unique economics of information and information systems?
How do information systems enable organizational processes?
How do organizations develop, acquire and implement information systems?
What is the nature of IS management?
What ethical, criminal and security issues do organizations face when using IS?

Table 1. Key Information Systems Concepts (from Ives, et al., 2002)

4.2 How the GOMC was implemented

4.2.1 Picking teams: Typical enrollment for the MBA MIS course is 25-30 students. However, due to course scheduling conflicts, the class that participated in GOMC 2008 had only 10 students. Thus, it made sense to have two teams of five students each. Given that the students were mature adults who knew each other to some degree from other courses, students self-selected into separate teams. In retrospect, this method was successful as each team seemed to work well throughout the semester.

4.2.2 Recruiting client organizations: After teams were selected, each team had the task of finding a client. Remember, these students are working adults with their own contacts in the business world. The professor also provided suggestions of potential clients.

Group #2 quickly settled on a small, local law firm (in which a team member’s father was a partner) as its client. Group #1 had a more difficult time. They went through several client candidates, only to discover that each company’s Website was made of Flash (Adobe, 2008)

graphics, rather than text. Because Google during the spring of 2008 did not index the contents of Flash, it would have been difficult for the team to specify ads and keywords that Google’s AdWords algorithms would consider relevant to the potential company’s Webpages. Google aims for its sponsored ads to be relevant to the consumer. So, group #2 eventually chose the employer of one of its team members as a client, a local African-American cultural center.

Lessons learned by the class included search engines’ thorny technical problem of determining the semantic relationship between images and text, and more specifically, that client Websites engineered with Flash technology were not compatible at the time with sponsored search advertising. This issue highlights the strong emphasis that search engines place on the relevance of the sponsored ads to the consumer. If the ads are not relevant to the consumer’s query, consumers will not click on them. That results in a waste of advertisers’ marketing funds which would lead to discontinued sponsored search advertising. Also, few clicks mean that the search engine makes little money. In essence, too much irrelevant advertising causes the collapse of the search engines’ entire business model. So, if the search engine cannot determine the appropriateness of the advertiser’s Webpage to the ad that sent you there, and to the consumer’s query that triggered the ad in the first place, the ad does not have much of a chance of appearing on a search results page.

More importantly, this is a great example of how a technical issue (the incompatibility of the advertiser’s exciting graphics with the search engine’s determination of relevance to text ads and queries) can affect business strategy (a diminished ability by the advertiser to take advantage of sponsored search as a marketing channel). Thus, informed, strategic decision-making is required by the corporation: does the advertiser choose a slick-looking Web site using Flash, or an additional source of sales from search engine advertising? In terms of pedagogy, this issue was totally unexpected, and beautifully demonstrated the potential effects of technology on business strategy. (Note: as of July 2008, Google has begun indexing the text inside Flash files, again a great learning point on the changing nature of technology and its impact on other systems.)

4.2.3 Delivering the material: All students had access to a textbook provided online by Google (2008a). The Google free online textbook was used to cover the basic concepts of creating ad groups, writing ads, choosing landing pages, choosing keywords, bidding on keywords, etc. Three class periods delivered this material and demonstrated online Google AdWord’s tools. The graduate students remarked at the end of the course that it was a lot of material to absorb, and it might have helped to have some video instruction as well as the text and lectures. There are now videos online (Google, 2008b) that will be used with the course next time.

4.2.4 The three-week campaigns: The GOMC initially allowed teams to run their campaigns during any three consecutive weeks from February 10, 2008 through May 24, 2008. Given that it took time for the teams to recruit clients, digest the material and write the Pre-campaign Strategy, and given that the course semester ended in the third week of

April, the teams were greatly constrained as to when their campaigns could run, especially since they would need time at the end to write the ten-page Post-campaign Summary (as well as finish other course requirements unrelated to the GOMC). Although allowing the two teams to run their campaigns at different times due to clients' potential needs (for example, promoting events that might occur at different times during the semester) was considered, these types of needs did not materialize, so we all agreed that the two team's campaigns would run concurrently from March 16 through April 5, 2008. That way, the class as a whole could discuss how to optimize their campaigns and any unexpected issues that might arise. We discussed campaigns in class as they were occurring, and each team benefited from the other's experience and our discussion of the issues. It certainly would have been more time-consuming for the professor to offer individual counseling to teams whose campaigns were running at different times during the semester.

Students found that monitoring the campaigns in progress was challenging. Google AdWords keywords auctions are dynamic. An ad that is appearing one day may not appear the next, and may require a higher bid. Keywords constantly need to be adjusted. For example, some of the team's keywords may match consumer queries that are unrelated to the ads' product or service and thus waste advertising dollars and lower click-through rate (a keyword online advertising metric). Some keywords may never match anything. Ads may need to be re-written to improve relevancy to the consumer query. Given that the teams only had \$200 for three weeks, it was also important that they not spend the budget too fast. Thus, the team would still have funds to allow them to try to adjust their strategies, and then measure their results.

Also, campaigns needed to be adjusted as students' understanding of AdWords improved. For example, group #1 quickly discovered that "Durham" was not a good keyword. Although it was the name of their client's city, it would also match unrelated queries. For example, did they want to pay for a click on their ad promoting a cultural center, if the ad displayed in response to a query like "Durham dentists"? How likely would someone searching for local dentists be interested in their cultural center, even if the person did click on the ad? Students got hands-on practice with the concept of targeted advertising and having to understand how search engines work in order to create effective advertising. With the constant daily monitoring needed, the students (most with day jobs) were glad when the three-weeks were over, so they could relax a little.

4.2.5 Grading the teams: In terms of the written requirements, Google (2008c) provided detailed specifications on requirements for the Pre-campaign Strategy and Post-campaign Summary reports. As MBA students, the class was familiar with writing business plans, executive summaries, and recommendations, and readily grasped the structure provided by the GOMC for the reports. Report production was treated as a collaborative/consultative experience. Each team presented their report to the professor and the other team. The entire class discussed the report's findings and provided the team with feedback on how to

improve the report. Using the feedback from the presentation, teams re-worked their reports and submitted them to the professor for approval before submitting them to the GOMC.

In terms of grading the reports, we stuck closely to the criteria outlined by the GOMC. Each team received one grade for their report. Confidential peer evaluations by each team member were used to adjust individuals' grades down or up, as necessary. The GOMC grade was worth 30 percent of the overall course grade.

5. EVALUATION OF THE GOMC AS PART OF THE MBA MIS COURSE

As described in the literature review, experiential learning can and should be an important facet of an MBA MIS course. The GOMC provides educators with a ready-made project that allows students to gain experience working on a real-world business problem with business people. Students have to apply things they studied in the classroom – writing business plans, making presentation, managing projects – in a situation where their performance impacts much more than their course grade. Through the project, students also learn and practice search engine advertising basics, and experience first-hand how technical issues can impact organizational issues.

5.1 Challenges of Experiential Projects

Given the widely-acknowledged value of projects as pedagogical tools (e.g., Aytes & Beachboard, 2007; Evelyn & Cathie, 2002; Gilbert & Andrew, 2004; Hart Research Associates, 2008; Munoz & Huser, 2008), and given the AACSB International (2008) accreditation standard #18 specifying integrative, interdisciplinary learning at the master's level, how is it that Navarro (2008) found so little emphasis on experiential elements in the MBA core of the top-fifty business schools? In addition to reasons presented by Navarro: that individual faculty may not have the necessary breadth of knowledge, and the common organizational dis-incentives for team teaching, what we suspect deters the use of projects in some cases is the difficulty of creating projects that are effective in supplementing the course material and are logistically manageable within the constraints of a course. We believe that the GOMC delivers on both counts, given that AdWords is a working marketing platform and that the campaign is limited to three weeks.

Our experience in teaching shows that one difficulty of incorporating projects into a course is finding projects of appropriate and equal difficulty for the student teams. The more similar team projects are, the easier it is for the professor to apply fair and consistent grading standards. With the GOMC, all projects are of a similar scope – working with a client to develop a three-week advertising campaign, running the campaign, and producing two reports. Granted, there may be uncontrollable differences between clients in terms of availability, or how easy they are to work with. But other than that, projects are similar in size and scope. The client relationship is an excellent learning experience as well. GOMC projects are also scalable to any class size by dividing the students into teams of four to six

members. As we experienced, finding clients can be challenging. In our case, the decision to compete in the GOMC was made days before the semester began. With a little more preparation time, it should be possible to tap into the vast network of contacts that most business schools have established, and be able to find enough eager clients. This could have a positive effect on a school's efforts for community outreach by providing services to local SMEs and assisting with forging stronger ties with alumni.

Gilbert and Andrew (2004) reported challenges in their efforts to integrate projects into their courses:

...the traps and obstacles to taking a project approach to traditional classroom instruction can be daunting. They include the ability to manage and direct open-ended assignments, managing student and customer expectations, engaging real-world customers, defining project scope, managing to a real world deliverable, liability issues, and customer commitment. (p. 6)

This echoes much of our experience and further highlights the value of GOMC projects which provide closed-end assignments with well-defined scope.

5.2 Complementing MIS Course Content

GOMC projects touch on major MIS course topics such as e-commerce, project management, the strategic use of technology, IS usability, and ethics, just to name a few. Referring to back to Table 1, we feel the course directly addressed two of the ten areas which Ives, et al. (2002) recommended as what all business students need to know: "How do information systems influence organizational competitiveness?" and "What ethical, criminal and security issues do organizations face when using IS?"

Regarding how IS influence organizational competitiveness, the class saw first-hand how the search advertising program provided the law firm client with an effective, cost-efficient lead generation method to complement their existing marketing. Also, one of the most valuable things the students discovered was the need of traditional business functions (in this case, marketing) to coordinate their projects with the information systems function. This lack of coordination impacted both teams at different points in their projects. For example, Group #1 signed off on my suggestion for the time frame of their campaign, and then after the campaign began, discovered that the client had planned for the Website to be down for a day to implement a site re-design. The other team's Website was down for a couple of days during the campaign because their client had made plans to change Internet service providers.

Project challenges did not end there. Although being able to change a client's Website was not a requirement for the GOMC, students soon realized that the content of a Webpage chosen as a landing page impacted their advertising costs. This point was driven home by the stark contrast between the Website design of the cultural center (group #1's client) and the law firm (group #2's client). The cultural center had a large variety of services (events, facility rentals, gift shop, etc.) described all on one very long homepage. The law firm had one short page for each of the firm's services (real estate, wills, traffic court, etc.). This allowed the law firm's

ads and keywords to be closely related to the specific landing page for each ad, thus lowering the bid they needed to get their ads displayed. The ads for the cultural center could not be that closely related to the cultural center homepage because a short ad could only contain one service to promote but the landing page described everything the cultural center did. Because of the search engine's need for ads to be highly relevant to the page that a consumer sees after clicking the ad, this increased the cost that the search engine required to let the cultural center's ads run. Thus, students experienced how Website design directly impacted the marketing function.

Finally, securing the cooperation of the clients' Web team would allow analytics code to be installed on the client's Websites that would track what pages consumers visited after they clicked on the client's ad. Again, these examples demonstrated the crucial MIS concept that information systems should be both coordinated and integrated with the primary business functions.

Regarding the illustration of ethics, the students were instructed not to click on their client's ads to test them, because that resulted in decreasing their ad budgets. That admonition also held for clicking on the other team's client's ads, which they jokingly remarked could make their campaign statistics look better vis-s-vis the other student team's. This led to a discussion of click fraud (a practice in which companies click on their competitors' ads (or pay someone else to) in order to deplete the competitors' marketing budgets), and the potentially damaging ramifications for search engines and their advertisers. Thus, concepts often treated in a theoretical manner in a traditional MIS course were brought to life in a context in which the students had a real stake.

A major downside of using GOMC in a course (as opposed to a student club, for example) is the course material that is given less time in order to make room for the GOMC. We feel that this disadvantage was more than made up for by the way many important IS lessons were demonstrated, and especially by the enthusiasm that the GOMC generated in the students who participated. Remarkd one graduate student, "As a student, it was the closest real world experience in an academic atmosphere that I have experienced."

6. RECOMMENDATIONS FOR IMPLEMENTING THE GOMC

Having been through the GOMC in 2008, the following is what we recommend to those considering participating in a future GOMC.

1. Start recruiting potential clients before the course starts. Consider working with your school's alumni association or business advisory board. In a pinch, you could consider other academic programs as clients (Turnbull & Bright, 2008). Clients who are willing and able to make quick changes to their Web sites are a plus.
2. For delivering the advertising basics, consider using the Google (2008b) videos as well as the written material supplied (Google, 2008a, c). Next time, we also plan to use a supplementary text, *AdWords for Dummies* (Jacobsen, 2008). This is a good book not only for

students but all for professors who may need to get up to speed on AdWords and online marketing.

3. If possible, have all teams run their campaigns at the same time. In our experience, this is time efficient way to assist students, and creates some great classroom discussions.
4. If the constraints of the GOMC make it difficult to incorporate into your course (e.g., it has only been offered in the spring semester timeframe), you can run projects without the GOMC. What you will need is a source of funds equal to \$200 times the number of student teams in your class. For example, if your school has funds to promote experiential or service learning, it only takes \$1000 to fund five teams, which could accommodate a class of up to 30 students.

Finally, if you think this type of project is a good fit for your course, do not be discouraged if you have never used AdWords. We never did either, and one of our teams placed as a Regional Semi-finalist in the Americas Region.

7. REFERENCES

- AACSB International (2008, January 31). Eligibility Procedures and Standards for Accounting Accreditation. Retrieved from http://www.aacsb.edu/accreditation/process/documents/AACSB_STANDARDS_Revised_Jan_08.pdf
- Adobe (2008). <http://www.adobe.com/products/flash/>
- Alsop, R. (2007, September 17). Recruiters' Top Schools. Wall Street Journal. Retrieved from <http://online.wsj.com/public/article/SB118961224646225232.html>.
- Associated Press (2008, June 13). Yahoo seeks Google's aid after Microsoft talks die. Technology Review. Retrieved from <http://www.technologyreview.com/Wire/20910/?a=f>.
- Aytes, K., & Beachboard, J. (2007). "Using the Information Orientation Maturity Model to Increase the Effectiveness of the Core MBA IS Course." Journal of Information Technology Education, Vol. 6, pp. 371-385.
- Brady, M. (2008). "Cover the Material--Or Teach Students to Think?" Educational Leadership, Vol. 65 No. 5, pp. 64.
- Evelyn, S., & Cathie, L. (2002). "Effective software engineering pedagogy." Journal of Computing in Small Colleges, Vol. 17 No. 6, pp. 124-134.
- Eysenbach, G. (2006). "Infodemiology: tracking flu-related searches on the Web for syndromic surveillance." In: American Medical Informatics Association (AMIA) 2006 Symposium Proceedings. Bethesda MD., pp. 244-248
- Ghose, A., & Yang, S. (2008). "An Empirical Analysis of Sponsored Search Performance in Search Engine Advertising." Proceedings of the ACM International Conference on Web Search and Data Mining (WSDM), pp. 241-250.
- Gilbert, W. L., & Andrew, J. W. (2004). Real world problems bringing life to course content. Proceedings of the 5th conference on Information Technology Education, Salt Lake City, UT, USA.
- Google (2008). http://www.google.com/events/business_educators/files/MarketingAndAdvertisingUsingGoogle.pdf
- Google (2008b). http://www.google.com/events/aw_academy/index.html
- Google (2008c). http://www.google.com/onlinechallenge/students_guides.html
- Hart Research Associates, I. W. D. C. (2008). How Should Colleges Assess and Improve Student Learning? Employers' Views on the Accountability Challenge: Association of American Colleges and Universities.
- Ives, B., Valacich, J., Watson, R.T., Zmud, R.W., Alavi, M., Baskerville, R., Baroudi, J.J., Beath, C., Clark, T., Clemons, E.K., David, G.B., David, F., Dennis, A.R., El Sawy, O.A., Fedorowicz, J., Galliers, R.D., George, J., Ginzberg, M., Gray, P., Hirschheim, R., Jarvenpaa, S.L., Jessup, L., Kemerer, C.F., King, J.L., Konsynski, B., Kraemer, K.L., Luftman, J.N., March, S.T., Markus, M.L., Mason, R.O., McFarlan, F.W., McLean, E.R., Olfman, L., Olson, M.H., Rockart, J., Sambamurthy, V., Todd, P., Vitale, M., Weber, R., and Whinston, A.B. (2002). "What Every Business Student Needs to Know about Information Systems," Communications of the AIS, Vol. 9 No. 30, pp 467-477.
- Jacobson, H. (2008). AdWords for Dummies. Wiley Publishing inc., Hoboken, NJ.
- Jansen, B. (2007). "Sponsored Search: Is money a motivator for providing relevant results?" IEEE Computer, Vol. 40 No. 7, pp. 52-57.
- Jansen, B. (Ed.) (2006), "Special section on paid search," Bulletin of the American Society for Information Science and Technology, Vol. 32 No.3. Retrieved on 7/13/08 from <http://www.asis.org/Bulletin/Dec-05/index.html>.
- Jansen, B. J., Brown, A., and Resnick, M. (2007) "Factors relating to the decision to click-on a sponsored link", Decision Support Systems. Vol. 44 No. 1, pp. 46-59.
- Jansen, B. & Mullen, T. (2008). "Sponsored search: an overview of the concept, history, and technology." International Journal of Electronic Business, Vol. 6 No. 2, pp. 114-131.
- Jansen, B., & Spink, A. (2006). "How we are searching the World Wide Web? A Comparison of Nine Search Engine Transaction Logs". Information Processing and Management, Vol. 42 No. 1, pp. 248-263.
- Laudon, K. & Traver, C. (2007). E-commerce: business, technology, society. Pearson Prentice Hall: Upper Saddle River, NJ.
- Mayhew, M. J., Wolniak, G. C., & Pascarella, E. T. (2008). "How Educational Practices Affect the Development of Life-Long Learning Orientations in Traditionally-Aged Undergraduate Students." Research in Higher Education, Vol. 49 No. 4, pp. 337.
- Munoz, C., & Huser, A. (2008). "Experiential and Cooperative Learning: Using a Situation Analysis Project in Principles of Marketing." Journal of Education for Business, Vol. 83 No. 4, pp. 214.
- Navarro, P. (2008). "The MBA Core Curricula of Top-Ranked U.S. Business Schools: A Study in Failure?" Academy of Management Learning & Education, Vol. 7 No. 1, pp. 108-123.
- Schroeder, C. C. (1993). "New Students - New Learning Styles." Learning from Change: Landmarks in Teaching and Learning in Higher Education, Vol. 25 No. 4, pp. 21-26.

Shore, B. & Briggs, W. (2007). "Competitive Analysis of MIS in the MBA Core: Are Trends Putting Pressure on the MIS Course?" *Journal of Information Systems Education*, Vol. 18 No. 1, pp. 63-68.

Tharp, R. G., Doherty, R. W., Echevarria, J., Estrada, P., Goldenberg, C., Hilberg, R. S., et al. (2004). Research Evidence: Five Standards for Effective Pedagogy and Student Outcomes (No. Technical Report No. G1): Center for Research on Education, Diversity & Excellence, University of California at Berkeley.

Turnbull, D. & Bright, L. (2008). "Advertising academia with sponsored search: an exploratory study examining the effectiveness of Google AdWords at the local and global level." *International Journal of Electronic Business*, Vol. 6, No. 2, pp. 149-171.

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