

# The Google Online Marketing Challenge and Distributed Learning

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Stagnant perceptions continue to persist in the general public regarding the services libraries offer. LIS research suggests an increased need for marketing, yet LIS programs and students may not view marketing as core to the degree. The Google Online Marketing Challenge (GOMC), a global competition for online marketing, was incorporated into two LIS courses to build skills in project management, industry analysis, marketing, and search engine optimization. A qualitative analysis was conducted to investigate whether they perceived the marketing project as relevant to their courses and degrees. A model was created to represent the factors that had an impact on project success. Overall students experienced an increased interest in marketing. Leadership, teamwork, and communication played strong roles in how students dealt with project challenges and their perceptions toward the end of the project.

**Keywords:** marketing, LIS education, distance learning, grounded theory, LIS graduate skills for the 21st century, group dynamics

## Introduction

In an age of increasing technology, stereotypes continue to follow libraries and the value of the services they provide. Based on previous studies of user behavior and library perceptions Connaway and Dickey (2010) compiled a list of implications for libraries. Three implications that stand out are: the catalog needs to function more like a search engine, users desire seamless transitions between resources, and libraries need to advertise in addition to providing access to different formats and content. The need for libraries to adopt improved marketing strategies has been documented elsewhere. Hepburn and Lewis (2008) suggest descriptive language, distinct names, and more instruction could be used to improve library branding at the University of Illinois at Chicago. Mandel (2010) acknowledges the need to improve library marketing and suggests that libraries selectively place advertisements along the most traveled paths in the library. Du (2009) concludes

that “computer and Internet usage give libraries yet another opportunity to promote the variety of print and electronic materials and programs that they offer” (p. 51). Lin, Tzeng, Chin, and Chang (2010) argue word of mouth increases the intention to use e-books because patrons inherently trust that mode of communication more and perceive it as less of a risk. While research supports the need to use a variety of marketing strategies to assess and improve use of library resources, it presumes graduates from LIS programs are adequately prepared to implement these strategies. This case study contributes to this research by evaluating the participation of graduate level LIS students from two online courses in a global marketing challenge and offering best practices to improving marketing education in the field.

## Problem Statement

The traditional viewpoint of marketing can be problematic to LIS because it invokes images of advertising, or maximiz-

ing sales, tasks more generally associated with business perspectives. Marketing encompasses many more perspectives such as advocacy, promotion and public relations. Dempsey (2009, p.13) defines marketing as “. . . a process where the ultimate goal is moving goods and/or services from the producer . . . to a consumer.” It is this process in which students and LIS professionals need to be educated so they can assess the progress of their efforts to complete everyday tasks such as promoting e-journal services, branding database products, or advocating for their information organization.

Despite this need to conduct marketing activities of various types, there is a paucity of research investigating student perceptions of marketing, student preparedness for executing marketing plans or how educators might provide more relevant marketing experience and education to LIS students. Exploring how LIS students conceptualize marketing could be considered a first step toward addressing gaps in LIS marketing education.

In the present study two online classes in the School of Library and Information Science (SLIS) at the University of South Carolina joined together to participate in the Google Online Marketing Challenge (GOMC) and explore the connections between LIS, online marketing and advertising. The aim of the study was to evaluate student perceptions of the relevance of the GOMC to their LIS degrees and careers. In addition the study assessed the variables that influenced successful outcomes for the GOMC. Using a follow-up survey and semi-structured interviews, three primary research questions were explored:

1. Which students groups performed better at the GOMC?
2. What variables influenced successful outcomes for groups? for individuals?
3. What were the students' perceptions of the relevance of the Google Online Marketing Challenge to their LIS degrees and careers?

## Literature Review

### *The GOMC*

The GOMC (<http://www.google.com/onlinechallenge/>) is an annual competition sponsored by Google. It was developed to provide students with real-world experience using online marketing techniques, while at the same time attempting to address a shift from teacher-centered instruction to deep learning (Neale, Murphy, Hudson, & Hunter, 2009). Students are asked to create an effective online marketing campaign using Google AdWords, Google's premier advertising product. Students, in groups of three to six, select a business, analyze the business's industry and deploy an online marketing campaign designed to attract consumers to the company's website. Students compete against other Adwords advertisers for *clicks* and *impressions*. An *impression* is when an ad is shown. For instance, if a Web searcher types in the keywords “marketing education” paid ads are shown at the top of the screen highlighted in a different color, and on the right side of the search engine result page (SERP), these results are examples of impressions. A *click* is when a Web searcher clicks an online ad link to explore ad content further.

In addition to learning about the difference between paid ads and regular search results or “organic search,” students learn about online ads, keywords, and the bidding structure for keywords. The main web site for the GOMC describes it as “[a] great exercise for undergraduate or graduate students in classes such as advertising, ecommerce, integrated marketing communication, management information systems, marketing or new media technologies” (Google, 2011). While LIS students are not mentioned the GOMC also presents a unique opportunity for them.

### *Library Use and Marketing Studies*

A real life marketing exercise benefits

LIS students because it prepares them to perform future assessments about library use. A study by Estabrook, Witt, and Rainie (2007) reports four main reasons that people do not go to the library: they obtain the information or assistance somewhere else; they find the information online in the privacy of their home; they already have the information at home; or they find the information somewhere other than the library or their home. A variety of other factors might also explain why people do not go to the library, such as information overload (Cassidy *et al.*, 2011), library anxiety (Kwon, Onwuegbuzie, & Alexander, 2007), and convenience of using other sources (Connaway, Dickey, & Radford, 2011). A stronger background in marketing will assist future LIS professionals with crafting targeted messages to bring in people who may not be users of the information services provided.

### ***Job Outlook and Skills***

Opportunities that stress marketing are also important from a job outlook perspective. Changes in the skills required by employers of LIS professionals suggest an ongoing need for traditional library skills in addition to new skills, particularly in the areas of computer/IT skills and management, especially those dealing with people, that is, behavioral and interpersonal skills (Kennan *et al.*, 2006).

Research from Asia supports these trends. Rehman (2006) identifies the need for skills in information and knowledge management, particularly the adoption of a "corporate mindset" (p. 29). He further emphasizes management competencies particularly in the areas of strategic planning and decision making, marketing and public relations, financial strategies and budgeting, and benchmarking and valuation.

While there is a need for expanded skills in marketing, public relations, and related areas, there is an apparent disconnect between education and practice.

Singh (2009) studied 33 Finnish library directors and reports that 67% of them had either no education in marketing (55%; 18) or only informal marketing education (12%; 4). These directors managed libraries in both academic and special library settings, spanning such topics as theology, humanities, social sciences, law, technology, business, and other subject areas. In a study of perceptions of LIS degrees, Cherry, Duff, Singh, and Freund (2011) further support this need for marketing skills. Several student comments "express frustration at the relative lack of social status afforded the degree, and a call to arms to work from within the profession to change the public image" (p. 127). The call to revise the LIS curriculum to match the profession is ongoing. The research presented here makes a strong case for placing future emphasis on management skills, marketing education, public relations, and intrapersonal skills across the curriculum.

### ***Marketing Education in LIS***

The negative perception libraries have and the call for increased advertising by research would suggest education would also place emphasis on marketing. However, a study by Winston and Hazlin (2003) of 55 ALA-accredited master's programs in the U.S. and Canada found that marketing was not a major focus area. Of the programs surveyed 40% offered marketing coursework, 34.5% had an elective or required a marketing course in certain tracks and 5.5% offered at least one less-than-three-credit-hour course in marketing. Winston and Hazlin (2003) conclude, ". . . marketing and the related area of public relations do not appear to comprise a significant area of study either on their own, in stand-alone courses, or as components of management courses."

The relegation of marketing content to the periphery of courses and curriculums is consistent with preferences and uses of the marketing terminology in LIS. Singh (2009) reports that many in the field pre-

fer to view it as “informing” and “dividing information” rather than marketing because marketing projects notions of being fee-based and commercial (p. 116). This view is further supported by the ALA’s Core Competency Statement (<http://www.ala.org/ala/educationcareers/careers/core-comp/corecompetences/finalcorecompstat09.pdf>), which was released in 2009. It uses “advocacy,” “promote,” and “advocating” as the terms to describe the basic knowledge and skills LIS graduates will have upon graduation. This disconnect exists between research, curriculum, student and public perspectives suggests more work needs to be done to resolve this disparity.

Since the creation of the internet there has been an explosion of new developments and outreach in the online environment. Some examples of these developments are online public access catalogs, online journals, virtual reference in Second Life, library use of Facebook, and library use of Twitter. These developments need new strategies and assessment tools to evaluate if these investments are in line with the goals of information organizations. As new resources continue to explode, experiences in assessing effectiveness of online activities becomes more important. The GOMC provides an avenue to train students in search engine optimization techniques and assessment of online outreach. This research attempts to explore how students perceive the challenge and the broader concept of marketing in relation to their LIS degrees.

## **Methods**

In 2009 two online classes from the University of South Carolina School of Library and Information Science jointly participated in the GOMC. Students from Business Information and Digital Libraries were divided into groups of four or five. After group assignment there were a total of six groups, with three possible group combinations: three business in-

formation (BI) groups, one digital library (DL) group, and two groups with a mix (MX) of students from both courses. Mini lectures were created to emphasize the requirements of the GOMC and the core concepts necessary for challenge success. These lectures included an introduction to the GOMC, searching information sources, industry analysis, campaign strategy keyword selection, and web metrics.

At the end of the semester, students were sent email invitations inviting them to participate in the survey. The survey questions collected data on the factors that contributed to successful outcomes, the overall learning experience, and the relevance of the project to their LIS education and careers. Data collected from the surveys provided the rationale for the prompts used during the semi-structured interviews.

Survey respondents who agreed participated in the follow-up interviews. Interview data were analyzed using Nvivo software. Each researcher independently analyzed study data looking for evidence of successful outcomes from a grounded theory perspective. At the individual level, successful outcomes were indicated when students described self-correcting their own behaviors or when they demonstrated knowledge of course material and learning objectives through conversation. Instances where students expressed confusion or lack of understanding were also collected for comparison. At the group level, a successful outcome was denoted in two different ways; first, by comparing individual data within groups and across groups for consistent reports of success, and second, by the objective score each group received from Google at the end of the GOMC.

In the open coding process, codes were compared and merged into a hierarchical arrangement of categories. Codes were transformed into categories if they had a minimum of four references or if the content for the code referred to a category that had been previously analyzed. Coding disagreements were resolved through discus-

sion and clarification of coding terminology. After coding, all data were merged to determine the most salient themes and categories. The salient themes and categories were codes or topics that occurred frequently. These themes and categories were organized into the final model. Excerpts for prominent themes were selected from categories to fully represent the thick description of the grounded theory framework.

## Findings

### *Demographic Data*

A total of 28 students participated in the project; 15 were from the BI course and 13 were from the DL course. Females were the majority of the project (72%) and a majority of the leaders (66%). Leadership by course of origin was split down the middle, with half of the leaders coming from the BI course and the other half coming from the DL course (Table 1).

### *Survey Data*

The response rate to the survey was fa-

vorable with 60% electing to participate; 76% of the survey responses were from female participants. Survey respondents rated the overall interaction with their group as average (59%). When the survey respondents compared the GOMC to other learning experiences at SLIS they rated it as “average” or “somewhat worse” (82%). The majority of people surveyed also felt the relevance of the project to the courses was “average” or “poor” (65%). Participants were split on their opinion regarding the workload of the project; 35% felt the workload was just right and 35% felt it was too much. Overall participants generally felt the course provided enough information to complete the assignment (65%). Survey participants indicated their interest in marketing was initially low or very low (65%) but by the end indicated their interest in marketing had increased (65%).

### *Semi-Structured Interview Data*

Seven follow-up interviews were collected, and 57% of these were by female participants. Analysis proceeded from raw data to open coding, emerging categories then axial coding. The codes that were

Table 1. Group Composition, Leadership and Demographic Information.

Group Letter	Type	Leaders		Group Members		Total	
		F	M	F	M		
A <sup>+</sup>	BI	1		3	1	5	
B <sup>+</sup> *			1	1	2	4	
C <sup>+</sup>		1			3	4	
D <sup>ψ</sup>	MX	1		4		5	
E <sup>ψ</sup>		1		4		5	
F <sup>ψ</sup>	DL		1	4		5	
<b>Total</b>		<b>4</b>	<b>2</b>	<b>16</b>	<b>6</b>	<b>28</b>	
Leaders by Course of Origin (n = 6)		Gender of Leaders (n = 6)		Group Members (n = 22)		Gender (n = 28)	
BI Student Lead	DL Student Lead	F	M	F	M	F	M
50%	50%	67%	33%	73%	27%	71%	29%

Note: <sup>+</sup>Denotes groups led by a BI student. <sup>ψ</sup>Denotes groups led by a DL student. \*One member in group B did not participate fully due to personal circumstances.

Table 2. Snapshot of Survey Results.

Questions	n = 17	
	Highest Response Category	
3. overall experience working with group	76% good or average	Average (59%)
4. interest in marketing before	65% low or very low	Very Low (41%)
5. interest in marketing after	88% increased or stayed the same	Increased (65%)
6. relevance of GOMC to course goals	65% average or poor	Poor (35%)
7. compared to other SLIS assignments the GOMC was . . .	82% average or somewhat worse	Somewhat worse (47%)
8. amount of work required by GOMC	71% too much or just right	Tie between too much and just right (35%)
9. course provided enough information to complete GOMC	65% always or most of the time <sup>a</sup>	Most of the time (47%)

developed at each stage of data analysis are presented in Table 3. After the axial coding step, data were reviewed for overarching concepts (dimensions) that shaped

the final categories (themes) and the single core category under which all categories could be organized. These final categories were the result of merging like concepts

Table 3. Categories Developed During Coding Process.

Open Coding	Emerging Categories	Axial Coding	Categories
Advertising	Project Outcomes	Strategy/Feedback	
Adwords Literacy	Barriers/Challenges	Barriers/Challenges	
Self-Assessment	Project Outcomes	Strategy/Feedback	
Background Knowledge	Student	Student	
Benefits	Project Outcomes	Strategy/Feedback	
Communication	Communication	Communication	
Character Trait	Student	Student	
Course Changes/Suggestions	Instructor	Instructor	Changed to "Strategy/Feedback" during axial coding
Course Structure	Instructor	Instructor	
Emotion	Experience	Strategy/Feedback	
Experience	Experience	Strategy/Feedback	
Leadership	Student	Student	
Learning	Learning	Learning	
Learning Curve	Learning	Barriers/Challenges	
LIS Education & Practice	Relevance	Barriers/Challenges	
Project Critique	Project Outcomes	Strategy/Feedback	
Jobs	Project Outcomes	Strategy/Feedback	
Rewards and Opportunities	Project Outcomes	Strategy/Feedback	
Strategy	Strategy	Strategy/Feedback	
Time	Time	Time	
Time Delay	Time	Time	
Trial by Error	Strategy	Strategy/Feedback	
Workload	Barriers/Challenges	Barriers/Challenges	

from among the initial open coding categories. The dimensions also played a role in success; dimensions reflected concepts that reoccurred across all categories. In the final step, the researchers created a model that summarizes the research findings.

The final categories were people and relationships, barriers and challenges, and strategy/feedback. Organized underneath each final category are the open coding categories. These reflect categories that were mentioned frequently by the study participants. The model represents the progression of the challenge from beginning to end. *People and relationships* represents the formation of the class into groups and the initial state before the campaign begins. *Barriers and challenges* represents the middle portion of the challenge where the students begin to participate in the course and reflect on how to best complete the challenge. *Strategy and feedback* represents the ongoing resolutions and assessment involved with the end of the challenge. The dimensions of this model were communication, learning, and time. The arrows in the model suggest the dimensions are concepts that cut across all themes. All of these were situated under the core category of distributed learning management (Table 4).

***People and Relationships***

The first theme that arose from the data analysis process was that of people and relationships. The people and relationships

theme represents the course environment, the students, instructors, and their interactions. From a student perspective, the people and relationships theme reflected the knowledge, skills, and experiences each brought to the GOMC. People and relationships also reflected the course content, learning objectives, assignments, organization of the course, and student-instructor communication. Throughout this process group members discovered strengths, shared goals, similarities, and differences that influenced their overall outcomes. The concepts of course structure, background knowledge, and character trait were the most salient categories from the people and relationship theme.

The first concept to compose people and relationships was course structure. Course structure refers to the course requirements, the combined class structure, and the dispersed locations of the students. Participants offered several comments on the structure of the lectures, and the distributed nature of the group projects. These comments suggest that both group work and interacting with clients over distance was not the preferred way to communicate. Students with the most successful outcomes communicated frequently and found ways to work around the problems created by distance education. One student shared, “[We used] . . . the digital classroom and the [Blackboard] chat. We just used that open space, then half way through we set up a Wiggio account . . . that is how we coordinated our communication.”

Table 4: Final Model.

Distributed Learning Management		
People and Relationships	Barriers/Challenges	Strategy/Feedback
Courses Structure	Learning Curve	Self-Assessment
Background Knowledge	LIS Education & Practice (Relevance)	Trial by Error
Character Trait	Adwords Literacy (dealing with the interface)	Jobs
← COMMUNICATION →		
← LEARNING →		
← TIME →		

Another concept of the people and relationships theme was background knowledge. Background knowledge refers to the existing knowledge structure (i.e., knowledge, experience, and skills) of the students at the beginning of the GOMC. The background knowledge concept captured participants' feelings of fear and of being initially overwhelmed at the prospect of conducting an online marketing campaign. The students either expressed a desire for more marketing background or discussed how their current knowledge facilitated participation in the GOMC. This sentiment was summed up best by the student who shared, "For me, my experience using any kind of Google Adwords campaign was not there. I did not have any prior experience, although you did provide enough material that I could learn on the project." These comments serve as a stark contrast to one student who shared, "The fact that you have to encode things with metadata is really relevant."

The final concept to compose the people and relationships theme was character trait. Character traits were those intrinsic tendencies that individuals possessed or students observed in others. Examples of items labeled as character traits were leadership and work ethic. The following student expressed how important strong leadership was to group success:

I think the number one factor [for success] was the leader. . . . She was just outstanding, she was really a leader. She was enthusiastic, knowledgeable, and God knows, she was patient and kind. I think having an effective leader was the most important thing I can think of. . . .

Another example of the character trait concept was work ethic. Work ethic often exhibited itself as extrinsic motivation (e.g., I want a high grade) but also appeared in its intrinsic form (e.g., I want a deeper understanding of click through rate). One student shared, "[W]e had a different work ethic on our team; everyone else liked to do things at the last minute

but not me. I think it drove me crazy at first." Another student shared:

[I]t was frustrating when we were trying to get that final paper turned in [and] when others weren't monitoring their sites regularly . . . you can't have an ad up for a week before you go and look at it and [then] say it's time to do something because then you only have two more weeks to go . . .

The dimensions which had the most prominent interactions with the people and relationships category were time and communication. These interactions were usually expressed in the form of teamwork. Teamwork and how teams communicated were important factors in team success; without those two factors it was very difficult for teams to achieve successful outcomes. Teams with cohesion had members who were invested to the same level, more balanced participation, and a willingness to compromise or communicate through differences.

### ***Barriers and Challenges***

The second theme was barriers and challenges. This theme summarizes concepts students expressed as challenging. The survey and interview instruments assessed the barriers and challenges in an effort to better understand how some groups overcame the adverse situations they encountered. The concepts from this theme were the learning curve, LIS education and practice (relevance), and Adwords literacy.

The first concept to compose barriers and challenges was the learning curve. Students generally expressed that there was a large amount of material to learn and very little time near the beginning of the project. This was due in part to the variety of factors like learning new terminology, reviewing Adwords tutorials, and balancing workload of other courses. Perhaps the best quote to capture this sentiment was:



There was a very steep learning curve at the beginning of the semester. We had to get the pre-campaign strategy right at first. . . . [W]e had to learn so much up front so it was hit the high points and come back to it later. The big barrier was up front.

Another challenge for the project was adhering to a strict timeline. To begin the challenge each team needed a \$200 credit, so the timing of the entire project was disturbed when the large volume of teams participating created a delay in processing credits. From a student perspective this delay caused more stress in terms of the workload that was required of them.

Overall the majority of the learning curve shock had to do with the material topic and the students' belief that they did not know anything about marketing. Students managed this individually as they gained confidence completing project milestones. Perhaps the most confident quote captured was by the student who at the end said, "I can run a Google ad campaign! I have friends . . . who recently took me out to dinner because they wanted to talk about Google Adwords. Which was odd [because] I never thought of myself as a marketer."

Another concept included in the theme of barriers and challenges was LIS education and practice (relevance). This component captures how relevant an individual perceived the GOMC and concepts presented in the courses to their current education and future careers. Data from the survey suggested participants felt the relevance of the GOMC was poor or very poor. This was supported by one participant who shared, "I think the keywords, practicing having some experience and seeing how patrons search for and how it matches up is helpful. The rest of it, I just didn't get the tie-in, unfortunately." On the other hand, the majority of interview comments suggested the project had high relevance. One person shared: "The most important thing is creating content that is searchable based on user habits, regardless if that's in business or bibliographic

records and learning . . . user habits and [how to] make adjustments."

The last concept included in the theme of barriers and challenges was Adwords literacy (dealing with the interface). The Adwords literacy concept formed from the variety of quotes students made when they reflected on the dealing with Adwords interface and terminology specific to the GOMC. These thoughts were captured best by the following quote:

. . . certainly not myself nor any in our team, had ever done any online ads or Google ads, so the whole interface and theory of online marketing, and keywords was a bit new to us although we all had some experience with search and retrieval types of keywords but not really from a marketing standpoint.

The dimensions which had the most prominent interactions with the barriers and challenges category were time and learning. Participants referred to a "lack of time" or to "needing more time" to complete the work. With respect to learning, students expressed feeling "lost." Students who expressed this said they were disconnected from the course, the project, or learning objectives. The "lost" feeling often appeared in students who were unclear of what kind of action to take, or in those who felt that they lacked important knowledge regarding the project.

### ***Strategy/Feedback***

The third theme was strategy/feedback. Strategy/feedback refers to the ongoing experiences and information students analyzed and interpreted during the course of the project. Many times students used the same strategies to solve barriers and challenges. Analysis suggests students and groups with successful outcomes were separated from those without successful outcomes by how they interpreted GOMC results. The concepts that make up this cluster are self-assessment, trial and error, and jobs.

The self-assessment concept reflects comments by students discussing the process of monitoring their own learning and discussing strategies they used when faced with roadblocks. One barrier that was reported was the lack of marketing background. In this quote the student shares a turning point in her learning,

... it finally kicked through to me what you had been saying all along to look at the keywords. The keywords are the important thing. It doesn't matter about your marketing skill. ... Once I realized that, we started changing some ads around and then it started getting more effective.

Without the "a-ha" moment students continued to use basic trial by error strategies, as suggested by the following quote:

We really had a hard time grasping the interplay between the CPC [cost per click] bid and the various other cost structure[s] for how to effectively bid. ... We ended up going all over the map, so we were a bit erratic because we just wanted to keep trying different things ...

On the other hand, trial by error led to success in some cases. "... [W]e started achieving some success. ... It was nice to figure out what do we want to tweak now. We would try something and maybe it wouldn't work. We just did a lot of experimentation and that was enjoyable." These quotes highlight that while the trial and error strategy was pleasurable to those who achieved success, others developed the "lost" feeling mentioned previously.

Another concept that contributed to the strategy/feedback theme was jobs. Several quotes captured participants making connections between the hands-on experience of the GOMC and jobs.

A perfect example is I work in a law firm but I am involved in large scale databases and repositories. So it is somewhat not a typical MLIS job. ... My understanding of keywords and the combination of prior classes and this experience ties together

with everything in the program, in a way which has been wonderful.

Another student shared why this learning experience was so important to them, saying:

I've had a lot of information organization and retrieval and user behavior and things like that. This is really a different component to it. ... I don't think the typical and traditional MLIS classes would have gone into this online marketing component. ... It also gave a taste of the commercial end of it ...

These quotes capture the hands-on experiences students received from participating in the GOMC and how they felt the various skills related to essential processes in libraries and other information agencies.

The dimensions that had the most prominent interactions with the strategy/feedback category were communication and learning. As the previous quotes suggest, jobs and hands-on experience facilitated student learning. This learning component was also evident as students compared the GOMC to content from other courses. One student shared,

... in a way we're creating the keywords, it's almost like we're growing the pearl, where we're going to start out with these keywords, we're going to see what we get what kinds of hits from them, and then we're going to modify them based on that feedback to try and get a more precise or get a better keyword list.

Another student shared:

In a way, almost every one of them [tasks of challenge], other than the bidding structure, would play into some of the skills I've had in my previous classes; For example, interviewing a client is like doing an interview for a reference person [reference interview]. You know although a little bit reversed. We're going to them seeking them out but they are going to have questions. ... We have to ask a lot of questions

to clarify what it is they want for their business or for their web site to do.

These quotes reflect some of the self-assessments students made with respect to their learning and the relevance of the GOMC to LIS. Self-assessment allowed students to “trust the data” and differentiate unsuccessful changes from successful ones. These quotes suggest relevance of the GOMC was high and that students made numerous connections between the project, the course, their education and future careers.

### *Distributed Learning Management*

As the researchers proceeded through the analysis of interview data the dimensions of time, communication, and learning emerged as themes present in each of the final categories. The core category that best described the entire model was distributed learning management. Distributed learning management represents the structure of the course project. Each of the categories and dimensions summarizes the concepts related to online learners participating in the GOMC but also emphasizes the important roles of the instructor and the course environment. The core category taken together with the dimensions reflected the nature of the GOMC from beginning to end.

The final categories reflect the summation of participant comments. These categories were arrived at through the process of grounded theory and the “rolling up” of like categories into a hierarchical framework representing participants’ viewpoints in a qualitative model. The time dimension reflects the various participant comments that discussed time in various ways. Time was largely construed as a commodity and students generally remarked they needed more time. Comments from participants along the learning dimension suggest that self-assessment and related experiences were important to the process of integrating new marketing knowledge, while com-

ments along the communication dimension suggest that effective communication was one of the important factors to group success. The successful outcomes for groups and individuals depended on some items that were in their control (e.g. reviewing course materials) and other items that were not under their control (e.g., time delay, or a group member’s sickness). This model captures some of the nuances with distance learning specific to this group and project; as such these dimensions may not be as essential in future projects.

### **Limitations**

Potential limitations for this study were participant self-selection, participant bias, and experimenter bias. From a self-selection standpoint participants who performed well in the challenge might have selected themselves as participants in the study, or students who participated in the interviews might have attempted to provide the researchers with only positive accounts of how the challenge went. Similarly experimenter bias might have affected the results if the researchers attempted to influence the outcome of the results. Each bias could potentially skew the data positively or negatively.

Every attempt was made to address these potential threats with the design of the study. In order to minimize self-selection and participant bias the researchers scheduled interviews as close as possible to the end of the course. This had the added benefit of the events being fresh in the participants’ minds and it also meant that participants were not influenced by knowledge of how they performed in the challenge. During both the solicitation and disclosure process of the interviews we informed the students that the interviews would neither positively nor negatively affect their final grades.

Another method researchers used to minimize bias was through triangulation of data. Individually researchers coded participant data relating responses from

different participants and grouping like responses into categories. These safe guards were taken to address experimenter bias and to ensure participant comments were analyzed from different perspectives. In addition to the different perspectives provided by each researcher, each team's final ranking in the challenge was used to gauge group performance. This external measurement was an objective determination of success defined apart from researcher perspectives.

## Discussion

The purpose of this study was to develop an understanding of the variables that influenced successful outcomes on student participation in an online marketing project and whether LIS students perceived the project as relevant to the courses, their careers and degrees. Successful outcomes were defined as a student who conveyed his/her understanding of learning objectives during the interview or survey, triangulation of self-reported factors that contributed to success between and across groups, and the objective score each group received from Google at the end of the GOMC. At the onset of the research there were three exploratory research questions:

1. Which students groups performed better at the GOMC?
2. What variables influenced successful outcomes for groups? for individuals?
3. What were the students' perceptions of the relevance of the Google Online Marketing Challenge to their LIS degrees and careers?

Each of these questions will be discussed in further detail.

### *Which Groups Perform Better at the Google Online Marketing Challenge?*

Performance of each group type, as measured by final placement in the 2009 challenge, was balanced with some groups

in successful categories and average categories in approximately the same amounts. Business information only groups placed at the semi-finalist, strong, and good levels. Mixed groups placed at the semi-finalist and strong level and the sole digital library group placed at the fair level (Table 5). Although taken from a relatively small sample, the results suggest mixed group experienced the same levels of success as groups that were not mixed. While the lone digital library group performed the lowest overall, one would expect that if other digital library groups had participated they would have had an array of final placements similar to those of the mixed and business information clusters.

### *What Variables Influence Successful Outcomes?*

Three themes emerged that had an impact on the successful outcomes of groups and/or individuals: people and relationships, barriers and challenges, and strategy/feedback. The people and relationships theme suggests students had certain innate characteristics that helped them to deal with adverse situations. Groups and individuals who had a combination of strong leadership qualities and high work ethic were among the teams experiencing the most successful outcomes.

Groups with weak leadership had trouble making decisions, problems with motivation, and difficulty staying on task. Strong leaders were reported as having infectious enthusiasm, investment in the success of the project, and the willingness to do unwanted tasks.

A positive work ethic among group members galvanized activity and created synergy between group members. Discord among group members grew when one or more group members did not contribute. The final result was a large negative impact on the group. This lack of contribution tended to devalue the learning experience for more motivated group members and breed resentment. Teams with group

Table 5. Final Placement of Groups Participating in 2009 GOMC.

Group Letter	Type	Leaders		Group Members		Final 2009 Placement
		F	M	F	M	
C <sup>+</sup>	BI	1			3	Semi-Finalist
D <sup>ψ</sup>	MX	1		4		Semi-Finalist
A <sup>+</sup>	BI	1		3	1	Strong
E <sup>ψ</sup>	MX	1		4		Strong
B <sup>+*</sup>	BI		1	1	2	Good
F <sup>ψ</sup>	DL		1	4		Fair

Note: <sup>+</sup>Denotes groups led by a BI student. <sup>ψ</sup>Denotes groups led by a DL student. \*One member in group B did not participate fully due to personal circumstances.

- Winners—Our Global Winner and Regional Winners
- Semi-Finalists—The Top 50 in each region, not including our Winners
- Strong Campaign—The top 10% of teams not making the Semi-Finalists list
- Good Campaign—Teams in the 70th to 89th percentile
- Fair Campaign—Teams in the 40th and 69th percentile
- Campaign Needs Improvement—The bottom 39% of teams
- Campaign Ineligible—Teams who had active campaign days over 25 or under 7, or spent an insufficient amount of the US\$200 budget to allow for competitive algorithm calculation

members who had similar work ethics were better able to express learning objectives and translated this investment into successful outcomes.

The barriers and challenges theme highlights the situations that most affected successful outcomes. These situations were the steep learning curve, the “relevance” of the GOMC to LIS education and practice, and “Adwords literacy.” Students overcame the learning curve by spending time using the interface, reviewing lectures, reviewing supplemental material, and engaging in discussions with other classmates. One student shared, “[O]ne thing I did mid-way through was to go back and look at the work of previous winners or participants. I wish I’d done that at the very beginning.”

The learning curve, which represented a known barrier and hindrance to participation, was not an insurmountable one for LIS students. Participants who had greater success realized that although the project was “marketing,” each of the marketing constructs had direct parallels in LIS. Keyword performance had relationships with information organization

and cataloging. Search engine optimization had relationships with user experience and Web page design. Students with positive outcomes focused on applying their previous and current experiences to the task before them. What lost students failed to realize was their backgrounds in LIS and the provided course materials was sufficient training for performing well at the GOMC.

The strategy/feedback theme highlights the point for students where data from the GOMC becomes knowledge. All students employed similar strategies such as hypothesis testing, research, or trial by error. Students with more successful outcomes were able to use the feedback from their strategies to identify “corrective” actions. As students gained more confidence analyzing challenge data they were able to apply changes to their campaigns in ways that helped to establish a positive feedback loop. These students solidified their ambiguous knowledge and progressed incrementally, ending with a sense of worth about the project overall. Self-assessment in students was generally accompanied by increases in the interest of marketing.

### ***What are LIS Students' Perceptions of the Relevance of an Online Marketing Project?***

Findings on the relevance of the GOMC to course goals were mixed. While survey participants reported poor and very poor relevance for the GOMC, interview comments highlight a much higher relevance between the GOMC, the course, LIS education, and their future careers. While one possibility for the difference between interview and survey response data could be self-selection bias, interview interactions suggests the question may have been too broadly worded. In interviews participants demonstrated a consistent tendency to ask for clarification on the questions related to relevance. The scores on the survey question could potentially have suffered due to this lack of clarity with the prompts. Another possible explanation for the disparity could be that students benefitted from time to reflect on the skills and experience stressed by the project. Future research might explore this question further to understand what components students perceived as not relevant to their careers and follow up with students post-graduation to see if they are applying any skills they learned from the GOMC in their current work.

### **Conclusion**

For this exploratory study the GOMC was incorporated into a business information and a digital library course. Data suggest a heavy workload and time constraints made this project stressful from a student perspective. Future projects could alleviate student stress by administering the GOMC assignment as part of a separate course rather than "merging courses." Students wrestled with marketing concepts and participated in an experience that challenged the boundaries of what they believed to be core to LIS. In addition to making broader connections to the provision of information services, students

reported that their interest and knowledge of marketing increased. The GOMC had the following benefits for LIS students:

- emphasizing keyword description from Web context,
- introducing Web site evaluation and search engine optimization techniques,
- demonstrating the concept of relevance from the searcher behavior perspective,
- providing a hands on budgeting exercise, and
- creating a marketing campaign that emphasizes outreach and metrics from start to finish.

These skills are important to LIS students because they are essential for promoting services, combating stereotypes, and communicating the value of the library and other information organizations in the 21st century. The marketing skill set addresses the need for researching potential audiences, pilot testing outreach efforts, aligning campaigns with the organization's goals, and strong assessment. As LIS education continues to prepare students for the future, it is important to incorporate the elements of marketing education that LIS professionals will need now and in the future. While more research is needed, this project suggests stressing the intersections of LIS and marketing can serve as a starting point for introducing real life marketing experiences to an audience of LIS students.

Technology is requiring curriculums and the profession to change at an ever-increasing rate. As libraries and information agencies are called to even greater levels of accountability, more tools will be needed for measuring the spread and use of information. Students can better prepare for these shifts through experiences that challenge them to compete globally using a wide range of skills.

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