

User Study Proposal Investigating  
Information Consumption, Production, and Need in  
Minority-Serving University Student Organizations

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March 15, 2005

Student organizations provide a unique opportunity for students to socialize with like-minded peers and pursue activities that allow them to enjoy and share their common interests. Like their traditional non-profit counterparts, these organizations have distinct and intertwined organizational and information-based needs. <sup>1</sup>

In order to conduct their business efficiently when dealing with the external world, student organizations have a strong need to maintain a consistent identity. Since a great deal of communication in the modern era takes the form of electronic mail, this need often manifests itself in the form of shared or “branded” information streams that allow multiple members of the organization to communicate in a way that abstracts them from their role as a representative of that organization and instead places their information into the realm of an official response from the organization, alienated from its originator. <sup>2</sup>

This use of online communication has become an increasingly-important tool for student organizations to communicate both with their members and the external world. The organization’s Web site and mailing lists are one of its most important assets for external communication. They are used both to increase its visibility on campus in order to communicate events and news items to current membership and to recruit new members by enticing them with information about its activities and goals. <sup>3</sup>

While a Web site and mailing lists provide the primary mouthpiece of the organization, these official information channels need to be supplemented by forums in which members can speak informally amongst themselves. Regular meetings are one of the most popular methods of providing this informal interaction, which provides a

secondary level of information transfer that more closely addresses the individual information needs of each member.<sup>4</sup>

As organizations evolve, their information needs form a developmental continuum that closely tracks the evolution of the organization itself. Early-stage organizations need an *incubator* to spawn, encourage, and see new ideas to fruition, while ones in the later stages of development require *shaping*, and established ones need political and informational *stability*. Faculty advisors are the primary source of this incubation, shaping, and stability, and are relied upon to provide the critical experience and knowledge at each junction in the organization's development.<sup>5</sup>

While all student organizations share a basic set of needs, minority-serving student organizations face a unique set of challenges beyond those of their peers. They must provide an island of common interests and information sharing within the context of an indifferent or discriminatory environment.<sup>6</sup> Gender and race-based organizations play the role of social networker and inwards-looking information provider, while cultural organizations add a layer of cultural preservation on top of these needs.<sup>7</sup>

The information needs of student organizations thus paint a picture of an entity with a strong need for uniform identity, a rigid hierarchy of information transfer, the ability to juggle official and informal information channels, reliance on external counseling to provide stable information streams of evolving nature in response to the organization's growth, and, in some cases, the requirement to fulfill an additional role as information provider in the face of indifferent or discriminatory environments. Student organizations often fulfill many of these needs through a strong online presence, including Web sites, mailing lists, and electronic mailing addresses. As Frieze and Blum

emphasized,<sup>8</sup> online communications mediums are critically important as both external and internal information channels. However, the complexity and expense of these electronic mediums often present a significant hindrance to their effective use.<sup>9</sup>

Online information technologies are a cornerstone of a student organization's communications mechanism, yet they are often hard to utilize effectively. This raises the question of how these technologies might potentially be adapted to better suit the needs of student organizations. To answer this question, a mapping might be constructed between the communication (both acquisition and production) expectations that a student organization places on its electronic mediums and the actual results it obtains. This could be performed through surveying a number of student organizations and asking how they use current online information technologies, along with concerns about currently available software and suggestions for software enhancements. While such a mapping and the broad survey approach used to build it would be a valuable resource, they would only provide the *what* and not the *why*. To truly understand the problem, however, the *why* must be more clearly understood, and such information can only really come from the type of in-depth analysis provided by a case study.

Over the last year, the local section of the Society of Women Engineers orchestrated and launched a sweeping initiative called Align by '09. Of its five primary goals, two of them relate directly to the information-provider role of a minority-serving organization. One of the goals, to *develop and host an annual engineering design competition for girls in grades 4 through 6*, specifically targets younger girls considering a career in engineering. Its primary informative mechanism will be through one-on-one interaction and mentoring between UIUC female engineering students and these girls.<sup>10</sup>

While the importance of one-on-one interaction on information transfer with young children cannot be overlooked, the short duration of the contacts in this project severely limit the potential of their long term impact and suggest the future potential of electronic media (such as the Society's Web site) to sustain these outreach contacts.

To provide a long-term information channel to both aspiring young female engineers and also college students and professionals, the UIUC SWE section has determined *to become a primary source of information on engineering and careers for women of all ages...two major avenues of knowledge dispersal will be a website dedicated to these issues and an online networking program amongst alumnae, faculty, and members.*<sup>11</sup> While work has already begun on initial information gathering for this new site, a fundamental unanswered question remains as to the final scope of the site and the way in which the site ties in with the organization's local goals and existing information technology use. Many student organizations focus their information-providing efforts on their local audience of members and potential recruits, and do not even contemplate creating broader or even national-scale information resources.

This initiative provides the unique opportunity to study in considerable detail the information needs of a single organization, ranging from its internal communications to its desire to become a significant external information provider. While the results of a large-scale survey would be extraordinarily useful towards addressing the general technological needs of student organizations in general, conducting a case study on a single organization will provide a better understanding of the *why* behind those needs and a more detailed picture of the information needs being satisfied through technological means, as well as those that are currently satisfied through more traditional mediums.

Within the scope of such a case study, three primary questions become apparent. The first relates to electronic mailing lists and their role as an official information channel. To what extent do the expectations placed on this channel by officers equate to the actual satisfaction that recipients derive from the lists in terms of meeting their information needs? For example, many organizations publish a weekly newsletter that contains a list of upcoming events for that week. By publishing this weekly calendar in the newsletter, officers are expressing an expectation that the “push” nature of the medium will encourage greater readership, but to what extent does the membership read that section of the newsletter and how much does it affect their scheduling for the week with respect to other mediums such as the Web site or other published calendars of the organization? The second question relates to the Web site and its role as official information stream. Similar to mailing lists, the expectations and realities of this information stream will be examined, but the possible use of such a site to complement the informal interaction of regular meetings will also be analyzed. Would the creation of bulletin boards or private areas of the site dedicated to specific topics and not moderated by the organization’s officer board provide a viable alternative to regular meetings as a peer-to-peer information source in the context of student organizations? Finally, the role that the Web site plays as an outreach information source and its relationship to the organization’s local outreach goals will be investigated. In particular, the question of “branding” will be investigated, and how such a site should or should not be differentiated from the other information channels used by the organization.

Taken together, these three questions represent a cross-section of the electronic information needs of a single student organization. The interrelatedness of each of the

mediums investigated (mailing lists, local Web site, and national Web site) emphasizes the continuum of information transfer through electronic mediums in these organizations and hopefully will unveil some hidden relationships between them.

These questions will be addressed through a series of 30 minute interviews conducted with SWE officers and members. Due to the author's existing informal relationship with SWE, it is not expected that subject acquisition will present any significant difficulties. SWE officers are required to maintain office hours, where they must be present in the SWE office for 2 hours a week. During this time, the officers perform various tasks related to SWE, and, given the ongoing work of the Align by '09 initiative, these office hours present an ideal time during which to interview the officers, when the topics of this interview are fresh on their mind. To recruit officers, the officer roster<sup>12</sup> would be used to identify the current officers and contact them. The officers would be asked to volunteer 30 minutes of one of their office hours for the interview.

It is also during these office hours that the most active non-officer SWE members are present in the SWE office. These members are traditionally the most well-informed regarding SWE activities, which is ideal for the purposes of the interview, since many of the questions ask the participant's knowledge and interaction with various SWE resources that a non-active member would most likely not be aware of. Active members often use the office as a social nexus between classes to connect with other members about both SWE and non-SWE issues. While in the office, SWE-related topics invariably come up in conversation, and the SWE office presents an ideal location for selecting non-officer members in guerrilla fashion to participate. The author often

frequents the SWE office on a social basis, and could use this presence to randomly select members and ask them to participate in a quick 30-minute interview.

By selecting member participants from among active members, the data derived from these members will be more representative of the true information needs and uses within SWE. Interviewing the officers and members in the SWE office ensures a professional atmosphere and should make the participant feel more comfortable by keeping her in a familiar environment related to the questioning being asked. Ideally all 16 SWE officers would be interviewed, to capture the continuum of expectations by officers placed on the electronic communications mediums being evaluated.

The number of members interviewed would be determined by responses to questions 1 and 2 on the interview. Ideally, there would be equal numbers of the permutations on the following subject classes: held 1 previous officer position, held multiple previous officer positions, never held an officer position, participated in 1 committee, participated in multiple committees, and never participated in a committee. These pairwise permutations ensure equal coverage of those with no, little, and significant experience in officer and committee positions. To ensure equal representation, 15 members, each falling into one of these categories, must be interviewed. This screening would require a post-processing stage based on the first two interview questions, to discard extra interviews in certain categories and recruit subjects from the other categories. Depending on subject distribution, it might even become necessary to perform limited advertising by asking members in the SWE office if they knew of any other members who, for example, had held more than one officer position, but had only been involved with one committee.

To increase the representation of the sample, the interview screening process might potentially be expanded to include question 3, which assesses the importance of each of the primary electronic channels in the subject's information seeking behaviors. This would significantly increase the minimum number of participants, but would ensure representative distribution of knowledge regarding those channels.

Participants will be asked 16 questions during the 30-minute session. Many of these questions branch into sublines of questioning depending on the response to the primary question. The interview begins by asking the subject her name and all past and present SWE officer positions she has held. As mentioned earlier, it is assumed that particular officer positions will hold specific assumptions regarding the use of various information channels. By clarifying past officer positions held, the potential for bias caused by influence from previous officer positions may be noted. The similarity of many committees to SWE officer positions necessitates a similar line of questioning regarding committee participation. Finally, it is necessary to characterize the subject's overall SWE information awareness. If the subject responds that none of the electronic mediums used by SWE are important to her, then her responses to the remaining questions may be strongly biased. By asking the subject what alternative information sources she uses in lieu of those electronic ones, it is hoped that this bias may be partially clustered.

The next section of the interview addresses the first research question: that of the importance of email as an official information channel. Subjects are asked to determine the importance of the SWE weekly electronic newsletter in their information seeking tasks. Regardless of their response to part 3, subjects who respond to question 4 that they

regularly read the newsletter are suggesting that it does indeed play an important role in their information acquisition routine. Question 5 then follows this line of reasoning by asking officers why they submit information to the newsletter. The specific areas of interest from question 4, when correlated with question 5, yield a partial metric of how the expectations placed on this channel by officers equate to the actual satisfaction that recipients derive in terms of meeting their information needs. If, for example, an officer answered for 5 that she regularly posted meeting times for her committee to the newsletter, she is demonstrating an expectation that members find that information useful. If, however, subjects respond to question 4 that they do not read that section of the newsletter, then the satisfaction being rendered by the postings is very low. The utility of individual committee and officer mailing lists is measured in a similar way through questions 6 and 7.

The ordering of questions is extremely important in this section if the subject is an officer, as she should ideally consider her consumer role with respect to the electronic mail channels in a vacuum from her producer role. By placing questions about her consumption prior to her production, it is hoped that any priming can be avoided. Similarly, the subject is asked about the newsletter before the committee lists, which is asked before the officer list. This ordering represents the hierarchy of the information streams, in which the newsletter is considered the broadest resource, used to reach all members, while committee lists reach a lesser number of members, and the officer list is the most exclusive. Officers may have particular biases related to use of the more exclusive mediums, and so they are ordered in inverse relation to exclusivity to again avoid priming.

The third section of the interview addresses the importance of the Web site in the subject's information environment. Again, the ordering of the questions is important to avoid priming, and the subject is asked about her seeking behavior on the site before being asked about any production tasks associated with the site. The ordering of questions 11 and 12 is also very important, but for a different reason. Electronic messaging boards are not a topic that most SWE members and officers would be expected to maintain a high degree of familiarity with. Thus, it is necessary to prime the subject's response to 12 by getting her to refresh her memory regarding what these systems are and consider her past experiences with them.

Finally, the fourth section of the interview addresses the outreach mission of SWE. Outreach may be construed to include many different activities, and so the subject is first asked to clarify what she considers to be "outreach". She is then asked about her involvement with the outreach activities of SWE. It is expected that question 15, which asks about the suggested importance of outreach in SWE, will demonstrate strong bias, depending on whether the subject has or has not been involved with outreach. To avoid further biasing 15, the final question regarding the subject's use of the Web site to publicize outreach is not asked until after 15.

The interview instrument incorporates questioning for both officers (in which case it expands to address expectations) and members (in which case it focuses primarily on consumption). From the standpoint of the questions being posed, these two categories represent the two primary classes of information provider and information consumer. The success of mailing lists and Web site as an information channel between officers and members may be readily examined through the eyes of these two subject classes, as can

the potential effectiveness of the Web site as an informal information channel. The Web site as an outreach instrument, however, places both officer and members together as information provider through the single actor of SWE and places the outside world as the consumer. The number of classes of consumer that would have to be addressed as the audience of this site make studying the consumer side of the Website, and hence the analysis of its *content*, beyond the scope of the single interview instrument used for this paper. Instead, the interview instrument will focus on the extent to which the local organization integrates its Web-based outreach efforts with the local information goals of that site, and to what extent the organization itself considers branding a concern. Hence, by focusing on the site from a *producer* standpoint, the emphasis will be on the *process used to create* the site as opposed to the content of the site.

By conducting a broad survey of student organizations' information technology use, a generalizable set of mappings could be obtained that provide a direct basis for software implementation. However, the narrow focus of these findings would not provide a supporting framework within which they could be explained. If a particular expectation-application-outcome theme was discovered within the data, further work would be required to situate that finding within the greater information needs of the organization to determine whether it was a genuine shortcoming of the technology application, or if it was an artifact of unrealistic communication demands. Often, by examining the larger context of a communication exchange, subtle secondary needs may become apparent, such as a newspaper journalist using multiple clippings archives not just to collect details of a story, but also to see the various angles that have previously been used to present it.<sup>13</sup> Instead, by performing a detailed case study of the ways in

which technology is used to meet the information needs of a single organization, the generalizability of such a broad survey is sacrificed, but the outcome may be placed within an operational context, providing a bigger picture in which it may be analyzed not only with respect to the needs that are and are not fulfilled, but also on the appropriateness of the technologies used to fulfill those needs.

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