Evaluation of the Relevance of a Web-Based "Ask an Expert" Feature: StratSoy and Soy and Human Health Queries

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Abstract

StratSoy, a state-of-the-art Web-based information system, has an "Ask an Expert" (AE) feature that allows Web site browsers to question experts in 13 areas including Soy and Human Health (SHH). The objectives of this research were to: a) assess the use of the SHH AE feature; b) examine respondent attitudes about soy-related topics to help guide development of a Frequently Asked Questions (FAQ) section; and c) improve the information (continued)

Discussion

The interaction between the sugar industry and the Save Our Everglades Committee will serve as a point of reference for Florida's agricultural communicators over the next several years. In many ways, the conflict between the sugar industry and SOE followed behaviors predicted by the literature on public relations and activism. As mentioned earlier, small activist groups are often more effective than larger ones. This was obviously the case concerning the sugar industry — a small activist group was able to present a formidable challenge to an entire industry.
dissemination process on the Web site based on the results of this research. Study participants were 50 Web site users and 48 people who were unfamiliar with the site. The results of the study indicated topic areas of interest and additional Web site features desired by the respondents. The findings identified specific areas that may be targeted to improve the Web site.

StratSoy (Strategic Soybean System - http://www.ag.uiuc.edu/~stratsoy/new/), which is funded in part by the United Soybean Board (USB), is a state-of-the-art, Web-based information and communications system created in 1994 by researchers at the University of Illinois at Urbana-Champaign (UIUC) in cooperation with Texas A&M University. The overall goal of StratSoy is to promote informed decision making by the United States soybean industry in order to improve its effectiveness, efficiency and profitability. A vast amount of information related to soybean production, marketing and use is posted on the StratSoy system and is available to all StratSoy users.

Use of StratSoy has increased dramatically from about 700,000 hits to the Web site in 1997 to almost 1,300,000 in 1998 (StratSoy, 1999). The system is used by soybean producers, consumers, policy makers and researchers, among others. StratSoy is visited by an increasing number of users from around the world, with visits from over 130 countries (Thompson & Khanna, 1998). The wealth of information that can be found on StratSoy includes news from the USB, the National Soybean Research Laboratory and state association offices; market information; agricultural legislation updates; weather data and maps; soybean genome information; and discussion groups (StratSoy, 1999).

Web users can use the StratSoy "Ask an Expert" (AE) feature (now under the heading of "Soybean Answers" on the Web site) to submit a question to experts in 13 different areas including grain market analysis, soybean utilization, field crop diseases, seed quality information, soybean production/management, and soy and human health (SHH) (StratSoy, 1999). Discussion group question-and-answer exchanges are

For two months, the public relations battle continued, with each side of the argument accusing the other of distorting facts and deceiving the public. On November 6, Amendment Four was defeated, while Amendments Five and Six passed. Although the second two amendments passed, the sugar industry claimed the victory since the penny-per-pound tax was voted down.

How the Sugar Industry Conducted Its Campaign

Both sides of the issue spent a vast quantity of money on a wide variety of media. One of the primary strategies of the sugar industry was to finance a political action group called Citizens to Save Jobs and Stop Unwanted Taxes (CSJ SUT). Even the selection of the name for this group was strategic in that it played on voters’ aversion to taxes and fear of unemployment. An essential strategy of the sugar industry was to focus all of its media and attention on Amendment Four, the penny-per-pound tax amendment. Little mention was made of the other two amendments, which may explain why they passed.

Over the course of the campaign, the sugar industry responded to being referred to as “Big Sugar” (a derogatory term) by attacking the founders of SOE. The industry referred to chairperson Mary Barley as “a millionaire land development heiress” and to financial supporter Paul Tudor Jones as a “mega-wealthy Connecticut commodities broker” (U.S. Sugar Corporation, 1997 [on-line]). CSJ SUT aired television and radio advertising, portraying employees of the South Florida Water Management District (the regulatory agency with primary jurisdiction over the Everglades) as bureaucrats with a reputation for squandering public money on luxuries such as limousines and jet planes. This particular advertisement provoked then-Governor Lawton Chiles (who had remained quiet about the amendments issues thus far) to write a letter to CSJ SUT, chastising it for intentionally damaging the reputation of the water management district’s employees (Marcus, 1997).

In mailers sent to the homes of Floridians, CSJ SUT referred to the proposed sugar tax as a “food tax.” The mailer told voters that if the proposed amendment passed, they would wind up paying a tax on a food item - sugar - and would “give the politicians the power to raise property taxes hundreds of millions of dollars” (Citizens to Save Jobs and Stop Unfair
promoting an organization in a positive environmental light. Those principles are: S. S. Vandervoort’s Four Generic Principles of Promoting —

1. Make the environmental policy real.
2. Get out in front of the issues.
3. Go beyond compliance.
4. Communicate your actions.

She also recommended including representatives from opposing groups (i.e. community action groups, environmental activists, and political/regulatory officials) on environmental communications teams. While management may be very uncomfortable at the thought of including outsiders on a team designed to address sensitive environmental issues, Vandervoort (1991) maintains that history has proven that the earlier an organization incorporates opposing or outside perspectives, the earlier it can anticipate potentially serious problems.

**The Fight**

For several months before Election Day in November 1996, Florida voters were the targets of television and radio advertisements, direct-mail pieces, persuasive phone calls, and door-to-door campaigning — all related to the proposed amendments. The sugar industry, which is composed of two large corporations, a farming cooperative, and numerous small, independent farmers, was unprepared to face a serious challenge from a well-organized activist group. In addition, the industry was surprised by early polls that indicated widespread public support for the measures.

The sugar industry considered the proposed amendments a threat to its very existence. Seldom if ever before had a single agricultural commodity been singed out as “primarily responsible” for nonpoint-source pollution (pollution that is not the result of a direct, detectable environmental accident or contamination). One sugar industry statement said that “there are few times in the life of a business when one event can have a literal life-or-death impact; for U. S. Sugar (Corporation) and the Florida sugar industry, the threat of the $1 billion tax was such an event” (U.S. Sugar Corporation, 1997 [on-line]).

archived via bulletin board postings, and users can receive all questions and answers via E-mail by subscribing to a mailing list.

The SHH AE section is among the most heavily used topic areas/discussion groups. Of the number of messages exchanged in discussion groups from October 1997 to September 1998, the SHH section had the highest (1303) followed by Swine Management & Nutrition (845), Soybean Utilization (668), Grain Marketing (636), Soybean Production (408), and Farm Business Management & Marketing (224) (Thompson & Khanna, 1998). Interest in the SHH AE section is likely due to the explosion of interest in the role of soy in human health within the last decade (Messina & Erdman, 1995; Messina & Erdman, 1998).

The objectives of this research were to assess the use of the SHH AE feature through analysis of the demographics of those visiting the Web site and other information gathered from two surveys, examine respondent attitudes about soy-related topics to help guide the development of a “frequently asked questions” section (FAQ) and improve the information dissemination process on the Web site based on the results of this research. In essence, this research represents an example of how to use an Internet-based communications system to disseminate scientific information on soy and human health and how to improve that system based on users’ feedback.

**Method**

Two Web-based surveys were designed to address the research objectives: (1) a Web site User [WU] survey for individuals who were already familiar with the StratSoy Web site and; (2) a Web site Non-User [WNU] survey intended for people who were totally unfamiliar with the Web site. The WNU group consisted of men and women who had participated in soyfoods clinical trials at the University of Illinois. The surveys were set up on the Internet at two separate URLs and the password for access to the surveys were included in the E-mail/letter sent to potential respondents (see below).

**Survey design and data collection**

The WU Survey consisted of three parts containing a total of 51 questions. Part 1 consisted of questions related to demographics. Part 2 addressed StratSoy use and evaluation, and
Part 3 addressed general dietary information and the consumption of soyfoods. The WNU survey consisted of 31 questions and was identical to the WU survey regarding demographics and dietary information but contained fewer questions regarding the StratSoy Web site. Questions concerning dietary changes made in response to StratSoy use were omitted.

The WU group consisted of individuals who asked the expert a question (705), plus those who subscribed to the discussion group at the time (164), or had previously subscribed (26), for a total population of 895. Since the only information available for the WU group were E-mail addresses, this was the method of contact. The E-mail sent to this group explained the research being done, and requested that individuals participate by going to a Web site on the Internet and filling out the survey. Three weeks were given to complete the survey and five random $100 prizes were provided as an incentive for those completing the entire survey.

The WNU population consisted of 81 postmenopausal women who participated in a clinical trial investigating the effect of soy on bone density (Potter, Baum, Teng, Stillman, Shay, & Erdman, 1998), plus 84 men who had participated in a clinical trial regarding the minimal amount of soy protein needed to lower cholesterol (Teixeira, Potter, Weigel, Hannum, Erdman, & Hasler, in press). Both clinical trials were conducted at the University of Illinois at Urbana-Champaign. E-mail addresses were available for the majority of the men and none of the women. Thus, contact was made via both E-mail and regular mail. Participants were first-time Web site visitors only. Those respondents without access to a computer filled out the Web survey (with staff assistance if necessary) in Program office.

Statistics

Statistical analyses were calculated using SPSS® (SPSS, 1998) and SAS® (SAS, 1989) software. The Maximum Likelihood Method was used because of the testing of more than one variable (Freund, 1997); Wald’s test was performed to test whether the parameter estimates were significantly different from zero (Wald, 1943). Stepwise selection was used to reduce the number of variables in the model; and the Goodness of Fit Test was done to determine whether the model fit the data (Stokes, Davis, & Koch, 1995). The sign of the
2. Public Information — disseminates relatively objective information through mass media and controlled media with little input from outside groups.

3. Two-way Asymmetrical — uses research to develop persuasive communication in an effort to control the message.

4. Two-way Symmetrical — uses research and makes use of communication to manage conflict and improve understanding with strategic publics.

A given organization may practice more than one model at a time; the models are not discreet. Being able to recognize the models when they are practiced makes it easier to evaluate and compare public relations efforts.

One mistake an organization can make when taking an inventory of its publics is underestimating an activist group because its membership is small. Olson argued that smaller groups have an advantage over larger groups because smaller groups tend to perform more efficiently than larger groups and that they seem to have wider support than they actually have. He concluded that smaller special interest groups have disproportionate power (in L. Grunig, 1992). J. Grunig (1989) pointed out that in large groups, it is normal for members to assume that someone else will take over for them if their efforts are lacking; in smaller groups members realize that they must do their fair share or no one else will.

An additional consideration for an organization when evaluating an activist group is what motivates people to become a member of such a group. J. Grunig (1989) established a situational theory of publics that begins with the assumption that publics form around specific situations or issues produced by the consequences that organizations have on people outside the organization. He stated that people seldom seek information about situations that they do not feel has an impact on them. Organizations, therefore, should keep in mind that individuals often join activist groups to get information about and take action on topics they are interested in; this can help guide organizations in tailoring their messages to various publics (J. Grunig, 1989).

L. Grunig (1992) developed a series of conclusions about the impact and interaction between an organization and its parameter estimates (which shows a positive or negative relationship between the dependent and independent variables) was reported along with the p values from Wald’s test (p ≤ .05 was considered statistically significant). The Wilcoxon 2 Sample Test (non-parametric) was used to compare the scores (or ranks) of two independent groups and test whether the distribution of the scores (ranks) was equal or unequal. Since the data sampling was not randomly drawn, due to the nature of the Web site and the access to information about respondents, it would be prudent not to extrapolate the data found in this study to a general population, though the method would have relevance and use for specific sites.

### Selection and writing of FAQs

An FAQ section was added to the Web site during the course of this study, both to facilitate the dissemination of SHH information and to decrease the number of repeat questions submitted to the AE feature. The following FAQ topics were those deemed to be of most concern to the WU group and were chosen based on the number of questions submitted to the AE feature as well as the latest research findings regarding soy and human health: Breast Cancer, Cholesterol, Colon Cancer, Haelan, Isoflavones, Lecithin, Menopause, Osteoporosis, Practical Tips, Prostate Cancer, Recipes, Soy Allergy, Soy Infant Formula, Soy Protein Quality, Soy Safety, and Soyfoods. Analysis of the number of hits to individual FAQs (which were set up as fact sheets) was conducted using information in the StratSoy Statistics Page (StratSoy, 1999). Analysis of the number of times responses referred to individual FAQs after their implementation was done by analyzing the text of responses to submitted questions.

### Results

Of the 895 E-mails sent out, 164 were sent to E-mail addresses which were found to be no longer valid (more than one attempt was made to send the E-mail) and therefore the original message was presumed to have never been received. A total of 731 remaining users should have received the original letter. Of these, 50 users completed the surveys for a final response (messages sent/surveys completed) rate of 6.84%. Of the 165 E-mails/letters sent out to the WNU group, eight were invalid addresses, reducing the total to 157. A total of 48 surveys were completed for a response rate of 30.57%.
Survey responses for the Web site evaluation are shown in Tables 1 and 2. Data from identical question results are compared between the WNU and WU groups in Table 1, and the additional data that were collected from the WU group are presented in Table 2.

| Table 1 Survey Responses Part 2: Webpage |
|----------------------------------------|
| WNU | WU |
| 44% office access to Internet | 49% home access to Internet |
| 30% home access | 44% office access |
| 73% never visited before because had never heard of website | 49% have asked the expert a question in the past |
| 94% would ask a question of the expert if they had one | 74% have asked the expert a question in the past |
| 85% would look in archives first before asking the expert their question | 62% looked in archives before asking the expert their question |
| Positive aspects: easy to use; vast amount of information; AE feature | Positive aspects: vast amount of information; AE feature |
| Negative aspects: too slow; lack of organization; too much information | Negative aspects: lack of organization; too slow; no practical information |
| Suggestions: organize by subject; more practical information; FAQ; add search engine | Suggestions: better organization; faster server; more practical information |
| 78% think FAQ would greatly improve website | 86% think nutritional analysis of soyfoods would greatly improve website |
| 73% think searchable database would | 84% think searchable database would |

Three separate regression analyses were performed on the variable “Use of the Website” because of the way the survey rily responsible” for paying the costs of cleanup (Kleindienst, 1997).

- Amendment Six: this amendment was designed to establish a state trust fund reserved for Everglades cleanup.

This case study will examine the impact that environmental activism can have on agriculture by focusing on the Florida sugar industry’s reaction during the 1996 “sugar tax” amendment campaign.

**Literature Review**

L. Grunig (1992) described an activist group as “two or more individuals who organize in order to influence another public or publics through action that may include education, compromise, persuasion, pressure tactics, or force” (p. 505). Not only do activist groups attempt to influence other publics, but members of activist groups contribute to the constraints on a given organization’s autonomy and bring about the need for public relations efforts (J. Grunig, 1989). It is in trying to maintain as much control over itself as possible that an organization must constantly monitor its environment for relevant publics with special attention paid to those that may be active or antagonistic (L. Grunig, 1992). When monitoring publics for potential negativism, the public relations practitioner should remember that not all constraints on an organization’s autonomy come directly from an activist group. Activist groups may also pressure government officials to support legislative regulation (J. Grunig, 1989).

The process of monitoring publics is an ongoing one for an organization. Knowing how publics perceive an organization, as well as how to reach those publics (L. Grunig, 1992) is essential for public relations studies that focus on proactive interaction rather than situational crisis management. In order to be more exact when addressing the issue of interaction between an organization and its publics, it is helpful to think in terms of J. Grunig’s (in Lindeborg, 1994) four models of public relations. He was able to identify and define four distinct ways in which public relations is practiced: J. Grunig’s Four Models of Public Relations Practice —

1. Press Agentry — produces favorable publicity, especially in the mass media, with little regard to ethics or outside input.
Today the one million acres of the EAA contain some of the most fertile farmland in the nation, much of which supports the largest producers of sugar in the country. This same area has also captured the attention of environmentalists and nature lovers around the world. As the scientific community continues to discover the ecological importance of the Everglades, it also discovers that run-off from farms, as well as the very existence of the farms, may threaten water quality in south Florida as well as the health of the remaining Everglades. As a result of these findings, many environmental activists began to attribute most or all of the Everglades’ woes to sugar farming practices, without significant mention of the ecological impact of the Miami/Dade metro area. In response, sugar farmers contended not only that it is impossible to blame all of the environmental damage on their industry (they assert that their level of responsibility can not be determined scientifically), but also that it is a grave injustice to ignore the negative impact of the urban population residing on what used to be the Everglades itself.

In 1996, the issue finally was contested when a small but well-funded environmental activist group named Save Our Everglades Committee (SOE) authored three proposed amendments to the Florida Constitution. The committee collected enough signatures to place the proposals on the November 1996 ballot and began a campaign aimed at voters in support of the amendments (U.S. Sugar Corporation, 1997). The Florida sugar industry spent $24 million - and by some reports, an estimated $30 million (The Tampa Tribune, 1996) - and the Save Our Everglades Committee (SOE) spent over $14 million on the most expensive public relations campaign in the state’s history (Marcus, 1997). The three proposed amendments were as follow:

- Amendment Four: if passed, this amendment would put a penny-a-pound tax on all sugar grown in Florida. If passed, it has been estimated that sugar farmers would have had to pay $1 billion (U.S. Sugar Corporation, 1997).
- Amendment Five: this proposed amendment, commonly known as the “polluters pay” amendment, stated that those in the Everglades Agricultural Area “who cause water pollution within the Everglades Protection area or the Everglades Agricultural Area shall be prima-

### Table 2 Additional StratSoy Evaluation by Website Users from The WU Group

| Activity                                      | Percentage |
|-----------------------------------------------|------------|
| Found the site by search/links                | 82%        |
| Have visited the site more than once          | 70%        |
| Visit the site once a day                     | 8%         |
| Visit once or twice a week                    | 13%        |
| Visit once or twice a month                   | 48%        |
| Visit once or twice a year                    | 20%        |
| Spend less than 5 minutes at the site         | 10%        |
| Spend 5 to 10 minutes                         | 31%        |
| Spend 10 to 15 minutes                        | 28%        |
| Spend 15 to 20 minutes                        | 18%        |
| Spend more than 20 minutes                    | 13%        |
| Have not visited the site more than once      | 53%        |
| because too busy                              |            |
| Have not visited because did not find the information useful | 0%      |
| Have never subscribed to the site             | 61%        |
| Have not subscribed because did not know they could subscribe | 68%        |
| Subscribe to get all Q&A                      | 50%        |
| Subscribe to avoid visiting the website daily | 32%        |
| Stopped subscribing to not flood In Box       | 27%        |
| Have looked through archives                  | 66%        |
| Those who did not look through archives said because too time consuming | 37%        |
| Have asked one question                       | 53%        |
| Have asked two questions                      | 31%        |
| Who never asked a question did not have a question to ask | 47%      |
| Said question was answered by looking in archives | 20%       |

questions regarding soy consumption were set up. Question 41 concerning soy use was a yes/no question; questions 42-44 were answered only by soy users; and question 45 was answered only by those who do not use soy. Thus, the first regression analysis was conducted minus questions 42-45; the second regression analysis was performed without questions 41 and 45; and the third analysis was done excluding questions 41-44. As shown in Table 3, the first regression found that the best set of variables to predict "Use of the Website" were soy consumption, age, interest in menopause, interest in cholesterol, and interest in osteoporosis. The second regres-
sion identified age, interest in osteoporosis, and use of soy because it is a good source of calcium, while the third regression found age, interest in breast cancer and interest in cholesterol to be the best group of variables.

| Regression | Parameter Estimate | Set of Variables* |
|------------|--------------------|-------------------|
| 1 + Soy Consumption | .0006 | + Age, + Interest in Menopause, - Interest in Cholesterol, + Interest in Osteoporosis |
| + Age | .0001 | |
| + Interest in Menopause | .0029 | |
| - Interest in Cholesterol | .0017 | |
| + Interest in Osteoporosis | .0300 | |
| 2 + Age | .0011 | + Interest in Osteoporosis, - Soy as Source of Calcium |
| + Interest in Osteoporosis | .0077 | |
| - Soy as Source of Calcium | .0083 | |
| 3 + Age | .0001 | + Interest in Breast Cancer, - Interest in Cholesterol |
| + Interest in Breast Cancer | .0001 | |
| - Interest in Cholesterol | .0127 | |

* Independent variables: gender, ethnicity, age, education level, income level, soy consumption/frequency, disease interests with regard to soy, diet, and motives for consuming or not consuming soy.

Statistically significant differences between the two groups with regard to the above mentioned variables are presented in Table 4. The WNU group was significantly older (p < .001), consumed less soy (p < .001), soy milk (p < .001), tempeh (p = .05) and tofu (p < .001), and had less interest in menopause compared to the WU group (p < .001).

Ranking was done of the outside links most frequently used to access the SHH AE feature during the month of January in 1997, 1998 and 1999, by using the data in the referrer log on the StratSoy Statistics Page (StratSoy, 1999) (Table 5).

Analysis does not include searches done using various search engines.

The “Sugar Tax” Fight

Ricky Telg

Abstract

The purpose of this case study was to examine the impact that environmental activism can have on agriculture by focusing on the Florida sugar industry’s reaction during the 1996 “sugar tax” amendment campaign. During the campaign, proponents and opponents of the three proposed Everglades-related amendments to the Florida Constitution spent more than $40 million to sway the public. As a result of the public relations and political campaigns, communicators from Florida agricultural industries realized that they must increase their efforts to project a positive public image.

One hundred years ago, south Florida was considered by most to be a wasteland of mud, muck, and mosquitoes—a malarial swamp better left alone. The population of south Florida was approximately 23,000, most of whom were clustered along the Atlantic Coast. Land suitable for housing construction was scarce due to periodic and systematic flooding. Following serious hurricanes in 1926 and 1928, the federal government authorized the United States Army Corps of Engineers to create a massive system of canals, boats, dikes, and levees. This ambitious engineering project created 1.3 million acres for urban use, much of which is now the Miami/Dade metro area. Two million acres were set aside as the Everglades National Park; one million acres were designated as the Everglades Agricultural Area (EAA) (Florida Crystals, 1997).

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Table 4 Differences Between Two Groups

| Variable                  | WNU          | WU            |
|---------------------------|--------------|---------------|
| Age                       | 4.85 (older) | 3.93 (younger) ** |
| Consumption of:           |              |               |
| Soy (General, yes/no)     | 40% yes      | 83% yes **    |
| Soy Milk                  | 4.24 (lower) | 2.60 (higher) ** |
| Tempeh                    | 4.94 (lower) | 3.98 (higher) * |
| Tofu                      | 4.11 (lower) | 2.49 (higher) ** |
| Soy Interest Area:        |              |               |
| Menopause                 | 3.15 (less)  | 2.12 (more) ** |

Numbers are averages
*p ≤ .05, **p ≤ .001, analysis done using Wilcoxon Test

During both 1997 and 1998, the greatest number of people accessing the Web site from a direct link at another site came from the Web page entitled "Soy Phytoestrogens: Effects on Physiology and Health" from the Departments of Animal Science, Food and Nutrition; and Physiology at Southern Illinois University at Carbondale (SIU) (http://www.siu.edu/~tw3a/cfarsoy.htm), followed by a link from a page entitled "Soy Goodness" (sponsored by For-Mor International, a dietary supplement company, http://www2.ari.net/home3/health/). In 1999, the most frequently used single link was from a Yahoo! search on Cholesterol followed by the SIU page. The next eight links for 1999 are shown in Table 4.

Use of the Web Site

Many people subscribe to the StratSoy SHH Web site in order to receive all of the questions and answers by E-mail. The number of subscribers is currently approximately 175, and has increased slightly over the past two years (see Table 6). StratSoy users can currently subscribe to six out of the 13 AE discussion groups. The total number of subscribers to each discussion group is listed in Table 5. "Market Analysis" (237) has the highest number of subscribers followed by "Soybean Production" (232) and "Soy and Human Health" (176).
Table 5  Links Most Frequently Used to Access Website*

1997 and 1998

1) Soy Phytoestrogens: Effects on Physiology and Health* from the Departments of Animal Science, Food and Nutrition; and Physiology at Southern Illinois University (SIU) at Carbondale (http://www.siu.edu/~tw3a/cfarsoy.htm)
2) “Soy Goodness”, sponsored by For-Mor International, a dietary supplement company (http://www2.ari.net/home3/health/)

1999

1) Yahoo! - Cholesterol
2) SIU webpage (see above)
3) Yahoo! - Endometriosis
4) Yahoo! - Promensil
5) “Menopause-On-Line” (http://www.menopause-online.com/soy.htm)
6) “U.S. Soyfoods Directory” (http://www.soyfoods.com/telephone.html)
7) Yahoo! - Phytoestrogens
8) Yahoo! - Homocysteine
9) Yahoo! - Breast Implants
10) “SoyEveryDay”, soy product from Reliv International (http://www.soyeveryday.com/)

* in order of most frequent use

FAQs (or topic areas of interest)

The topics of the FAQs were chosen based on the quantity of questions submitted to the AE feature, and on research findings regarding soy and human health. A significant number of survey respondents indicated that adding a FAQ section would greatly improve the Web site. More specifically, 78% and 70% of the WNU group and the WU group, respectively, thought that a FAQ would improve the Web site (see Table 7).

Two FAQs, “Menopause” and “Osteoporosis”, were posted in June, 1998. Another four (“Soy Protein Quality”, “Soyfoods”, “Recipes” and “Allergy”) were added in August 1999.

Endnote

Research has shown that publications of all types devote only a small percentage of their coverage of new technology developments to the social and ethical implications of those developments (Hollifield, 1997; Milavsky, 1993; Priest, 1995). A 1994 study conducted by Priest (1995) found that newspaper coverage of the ethical and social issues surrounding rBos was weak. Of the 600 arguments presented in 132 articles, 35 percent concerned the benefits and 48 percent concerned economics. But, only 7 percent addressed environmental issues and only 8 percent discussed ethics. Moreover, comparative research has shown that trade publications that directly serve the industry responsible for an innovation are even less likely to cover the negative implications of the development than either the general-interest news media or trade publications that serve other industries that might be affected by the innovation (Hollifield, 1997).

Whitney, D. C. (1991). Agenda-setting: power and contingency. Communication Yearbook, 14, 347-356. Newbury Park, NJ: Sage Publications.
Table 6 Number of Subscribers to AE Lists on StratSoy (June 1999)

| Topic Area                  | Number |
|-----------------------------|--------|
| Farm Business Management    | 94     |
| Natural Resources           | 112    |
| Soybean Utilization         | 157    |
| Soy and Human Health        | 176    |
| Soybean Production          | 232    |
| Market Analysis             | 237    |

Subscribers to SHH, Date       Number
November 1997                 141
April 1998                    127
August 1998                   132
June 1999                     176

Table 7 Suggestions for Improving the Website* and Reasons for Visiting the Website

| Suggestion                                                                 | WNU | WU |
|---------------------------------------------------------------------------|-----|----|
| To have a brief informational section on individual soy products/diseases | 67.4| 73.7|
| To have a FAQ section                                                   | 77.8| 70.2|
| To have a searchable database                                           | 73.4| 84.0|
| To add the complete nutritional analysis of various soyfoods           | 63.1| 85.8|

| Reason                                                          | WU   |
|----------------------------------------------------------------|------|
| To learn more about nutritional content of soyfoods             | 74.0 |
| To learn how to prepare soyfoods                                | 41.8 |
| To learn more about the role of soy in enhancing health         | 85.7 |
| I am curious about what questions people are asking             | 48.2 |
| To ask the expert a question                                    | 60.7 |

* percentage of those that think each of the following would greatly improve the website
with the final addition of "Haelan" and "Colon Cancer" by November, 1998. The remaining eight were posted in the Fall of 1999. The number of hits to these FAQs during a six-month period following their posting is shown in Figure 1; menopause had the highest number of hits (2307) followed by recipes (1377) and osteoporosis (1284). Colon cancer had the lowest number of hits (488). As soon as the FAQs were posted, the expert was able to refer to them in answering questions.

**Figure 1**

![Hits to FAQs Nov '98 - Apr '99](image)

### Improvement of Web site

Specific survey questions addressed the issue of improvement to the Web site. As shown in Table 7, the first choice for the WU group was to add the complete nutritional analysis of various soyfoods, while more of the WNU group thought having a FAQ section would best improve the site. Having a searchable database was the second choice for both groups. In addition to mentioning the four possibilities listed in Table 7 for improving the Web site, other suggestions given by many survey respondents included: a) adding more practical information for incorporating soy into the daily diet; b) increasing the speed of movement within the Web site (speed of server response); and c) improving information organization (perhaps by categorizing by subject matter, or by deleting repetitious questions). Both the WU and WNU groups responded to questions about negative attributes of the site, listing a general
The role of information subsidies between industry and the trade magazines and general media also deserves more study. The findings from this project raise interesting questions about the relationship between companies and the audiences they seek for important information about their operations, as well as their relationships with different types of media as they try to deliver that information to those target audiences.

Evidence from previous research strongly suggests that journalists use more specialized publications that have greater expertise in topical areas as a source of information, insight and story ideas (Reese & Danielian, 1989; Miller, 1978; Weiss, 1974). Moreover, even casual observation in newsrooms confirms that suggestion, as sports writers can be found reading publications such as Sports Illustrated, business writers reading magazines like Business Week, Restaurant News, etc. What remains unclear is the degree to which interest-specific, professional and trade publications actually serve to set the agenda for general-interest news publications, and the factors that may affect that intermedia agenda-setting relationship.

**Keywords**

Trade Press, Agenda-Setting, Mainstream Media, Expertise.

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In order to improve the Web site, one must consider the motives for people visiting the site in the first place (Table 7). Not surprisingly, the major reason the WU group visited the Web site was “to learn more about the role of soy in enhancing health” (85.7%). A high number of the WU group (74.0%) also said “to learn more about nutritional content of soyfoods” was a very important motive. Learning how to prepare soyfoods was of least importance to the WU group visiting the Web site.

**Discussion**

The lower response rate for the WU group compared to the WNU group might be the result of several factors. First, the length of the WU survey (16 pages compared to 10 pages for the WNU group) may have deterred potential respondents. Second, there may have been a higher response rate in the WNU group because they had all previously participated in soy food clinical trials at the University of Illinois and thus were possibly more interested in participating in research affiliated with the university. Finally, in order not to deter potential respondents of both groups (because of the personalized nature of the questions), the demographics section of the surveys would have been better placed as the final section instead of the first.

The higher number of subscribers to the AE features of Market Analysis and Soybean Production (Table 6) may reflect those individuals whose jobs are related to these two topics and who therefore rely more heavily on the information provided on a daily basis for work-related matters. Information provided to those who subscribe to the SHH feature may be used on a more personal level and is probably not as crucial to daily work performance compared to the top two subscriber groups.

The FAQs were designed to increase the information available at the Web site, and to simplify the AE response process by reducing the number of repetitive questions asked, or facilitating the answering of questions. Even though the use of the FAQs in this regard by the expert has not reached its full potential, the month of July, 1998 is an example where the expert referred to the FAQs in her answer to every question
asked concerning both osteoporosis and menopause.

For FAQs that were posted on the Web site from November 1998 to April 1999, menopause had the most hits followed by osteoporosis (Figure 1). This reflects the interest of the WU group as well as interests of general visitors to the Web site as shown by the number of hits to existing FAQs (Wool, Kanfer, Michaels, Thompson, & Hasler, manuscript submitted for publication). Two out of the top ten links to the Web site in 1999 were menopause-related (Table 5) which mirrors the fact that the menopause FAQ had the highest number of hits and menopause was the number two topic of questions asked of the expert.

When asked to list the negative aspects of the site, both groups listed the server as being too slow. Slow server response was also identified as problematic in 61% of the respondents to the Georgia Institute of Technology Annual Survey on Users of the World Wide Web (Graphics Visualization and Usability Center [GVU] Survey) (Kehoe, Pitkow, Sutton, Aggarwal, & Rogers, 1999). Increasing the speed of the server would increase the use of the archives and eliminate the frustration expressed by both groups. Since most (66%) of the WU group have looked through the archives and 62% looked before asking the expert a question, a reorganization of the archives, perhaps by subject matter or implementing a search engine, would increase the usefulness of the vast amount of information located there. Since only 39% of the WU group subscribed and 67% of those who had not subscribed said that one reason for not subscribing was that they did not know that they could, this information perhaps could be made more available to the WU group.

Conclusions

The evaluation of the use of the StratSoy SHH AE feature has provided information regarding who the Web site users are, what their needs are, and better ways to fulfill those needs more effectively. The AE feature allows the users not only to ask questions but to suggest improvements to the Web site. This allows changing trends in issues regarding soy and human health to be monitored as well as allowing the Web site to be tailored specifically to users' needs. Daily two-way communication on the Web site, along with occasional more in-depth studies of users' needs via surveys, can potentially greatly improve general information dissemination on the Internet and more specifically (as in the case of StratSoy) an agricultural communications information system on soy.

trade publications avoid reporting on the negative implications of industry innovations and initiatives.

Additionally, the finding may indicate a shift in the market orientation of agricultural trade publications. Hays and Reisner (1990) reported that agricultural trade-publication editors feel greater pressure from advertisers than do their counterparts in the general-interest news media. Moreover, agricultural trade-publication editors have suggested that they are under increasing pressure from both advertisers and their publications’ corporate owners to provide content that attracts the owners and operators of large farms — as opposed to small farms — as readers, because these owners and operators are more lucrative for the publications’ advertisers (agricultural trade magazine editor, personal communication, October 1997).

Clearly, there is room for research that examines the question of whether industry — and particularly agricultural — trade publications are shifting the nature of their publications’ content in response to advertisers’ demands. In the age of the “information economy,” access to competitive information is an increasingly important factor in the economic success of businesses of all sizes. Thus, if industry-specific trade publications are shifting their coverage away from news and information that is relevant to small producers in order to satisfy advertisers, it raises interesting questions about media performance and its impact on our economic system.

Finally, the failure to find support for most of the hypotheses in this study makes clear that the Expertise Model, which was based on the findings of previous research into trade publications’ performance, does not reflect the relationship between trade publications and the general-interest news media’s reporting agendas in all cases. This, then, raises questions about the factors that may shape or alter the relationships suggested by previous research.

It is possible, for example, that the flow of information between trade publications and the general-interest news media may vary according to the type of trade publications in question. In this study, trade publications specific to a small subsector of the agricultural industry, the dairy sector, were studied. Newspaper and news magazine reporters might be more likely to read trade publications that cover multiple sectors of the industry, rather than the highly specialized trade publications that were used in this study.
This research has revealed a large amount of information concerning users of the StratSoy SHH AE feature. The format of the Web site was changed in the beginning of 1999 (this research concentrated on use of the site during 1997-1998) and thus a follow-up survey could assess whether the change in the Web site had any affect on use of the Web site, their effect if any, changes in the number of hits to and prevalent interest areas of the FAQs, and whether the demographics of the users and their disease interests are changing over time. Modifications made to the Web site are potentially more rapid and effective because of the two-way communication which allows changes to be implemented based on user feedback.

At present, most of the WU group visit the site to learn more about the role of soy in enhancing health and the nutritional content of soyfoods as opposed to how to prepare them. The FAQs specifically address these two issues and will be instrumental in facilitating the dissemination of information to Web site visitors. Implementation of some or all of the suggestions for improving the AE feature (most individuals in the WU and WNU groups thought that a searchable database would greatly improve the site) should allow for users’ needs to be more fully met. Specific changes in the AE features might include dynamic reranking of the FAQ features so that the more frequently addressed concerns are the most easily accessed, and redirection of inquiries to dedicated Web pages and servers for extremely high-traffic issues. Again, it is the feedback loop built into this Internet communications system that facilitates improvement of the system by allowing for user-requested modifications to be implemented so that the Web site can be tailored specifically to users’ needs.

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finding indicates that trade publications do not always wait to cover such issues until after the general-interest news media have raised them.

However, closer examination of the actual coverage of the health issue in the agricultural trade publications suggests the finding may not be a contradiction of earlier research. Although the agricultural trade publications were the first to write a story about possible effects of rBST on human health, the story was written to argue that rBST would have no effect on humans. Given that the agricultural industry had previously fought battles over the food-safety impact of new production technologies (Duhe', 1993), the timing of the human-health story might be interpreted as an industry preemptive strike against a controversy that appeared likely to emerge in the political arena.

H5: Hypothesis 5, that supermarket trade publications would publish stories about the social implications (human-health issues) of the development of rBST after the national general-interest news publications, was the only hypothesis in the study that was supported (Table 5). For the most part, the supermarket trade publications in this sample did not enter into the rBST debate. Both the agricultural and the general-interest news publications published information about rBST's effects on human health before the supermarket trade publications.

Apparently the supermarket trade publications in this sample were not very concerned about rBST's effect on milk and dairy sales, offering their readers only scant coverage of a potentially important economic and political controversy for their industry.

Discussion and Implications

The failure of the data to support the first two hypotheses shows that the most powerful general-interest news publications did not use trade publications as a source of information about new developments in the agricultural industry in the case of rBST. Indeed, the findings suggest that the most powerful daily news organizations such as the New York Times and Washington Post are, at least in some cases, better positioned than trade publications to cover breaking news within

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