INTRODUCTION One of the most consistent findings in the research on attitude change is that a source having an ulterior motive for giving a message causes little attitude change in the target audience. That is, when the source of the message stands to profit from it, the audience tends to resist or discredit the message. One of the major instances of a source having an ulterior motive for delivering a message is in advertising. The source clearly has something to gain from convincing the audience of the authenticity of its message. That is one of the reasons successful attitude change in the target audience is so difficult to achieve when using an ad. In 1984, Blue Cross-Blue Shield of America began an advertising campaign that attempted to induce attitude changes toward the Blue Cross-Blue Shield image. Although awareness, or identification of Blue Cross-Blue Shield as a major health insurer was considered a problem, the public's perception that Blue Cross-Blue Shield was large, bureaucratic, uncaring and impersonal was a concern to the company. Therefore, it was decided that the ad campaign would be built around a "carry the caring card" slogan and would attempt to convey the idea that the company could be both efficient and personally concerned with the well-being of its customers at the same time. The present study had two objectives: 1) to utilize SAS programming to derive a Blue Cross Image and compare this to other health insurance companies' images; 2) to determine if any shifts in the perception of BC occurred during the ad campaign. METHODOLOGY In an attempt to access the Blue Cross Image and the impact of this campaign in the northwest Ohio area, Blue Cross of Northwest Ohio mailed 5,044 surveys to residents along randomly chosen mail carriers routes in the Lucas County, Ohio area. The initial batch of surveys were mailed prior to the start of the ad campaign to enhance the Blue Cross Image. A second mailing of 4,894 surveys, again to residents along randomly chosen mail carrier routes, was sent approximately 7 weeks after the start of the ad campaign to access any attitude change that may have occurred. As anonymity was considered necessary to avoid biasing the responses, the survey did not identify BCNWO as the originator. The cover letter stated that the survey was from a major health care corporation that was concerned about public opinion toward the health care industry. ANALYSES & RESULTS Initially, respondents were asked to indicate which health insurance agency came to mind first when health insurance was mentioned. Respondents were then asked to indicate how they felt about the company by reacting to a series of 10 statements. Respondents were to indicate how they felt about each statement by marking a five point scale, where 1 = strongly disagree and 5 = strongly agree. The statements were: 1) "This company provides the best benefits in health insurance." 2) "This company is too large to take care of my personal health needs." 3) "I believe I would have no problems using this health insurance anywhere in the country." 4) "This company takes a personal interest in my health and well-being." 5) "This company is primarily run by computers rather than people." 6) "I would feel very secure with this health care coverage." 7) "in the event of serious illness, I would have financial concerns if covered by this insurer." 8) "This company provides the best possible service in paying health care claims." 9) "The people in this company make an effort to show they care." 10) "If I had my choice, I would have this health insurance coverage." Data entry and analysis were done thru the Market Research Department, utilizing BCNWO's IBM 3083 mainframe, and the software package SAS. Six hundred seventy-five (675) responses were included in the analysis. The Blue Cross Image by comparing the ratings of the 10 statements when the company named is Blue Cross to ratings of the 10 statements when other insurance companies are named, it is possible to compute equations that indicate the relative strengths and weaknesses for each company. For each company mentioned, a multiple regression analysis was performed using the respondents' response to statement #10, "If I had my choice, I would choose this health insurance coverage" as the dependent variable, and the respondents' to each of the remaining nine statements referring to that company as the independent variables. From this analysis, it was possible to derive weights which indicated how important such factors as financial security, claims service, caringness were to respondents as criteria in selecting and rating a health care company. A composite score was computed by multiplying these weights by the average rating on each statement for each company. These composite scores can be viewed as indicators of both how important the factor is as a criterion in choosing health care, and how well the particular company fulfills the criterion. The SAS Commands Before the regression analysis could be run, certain manipulations of the data score card were deemed necessary. The scales used in the survey were assumed to be interval scales, but to prevent interpretation problems with the analysis, all data was converted by the computer into standardized scores with a mean of 0 and a standard deviation of 1 with the following SAS command: PROC STANDARD; MEAN=O STD=1; After the responses regardless of whether they were mailed before the ad campaign or near its end, were collapsed by company to give an overall view of each company's image. The regression analysis was run with the following commands: PROC REG; Model Choice=STATMT1 STATMT2 STATMT3 STATMT4 STATMT5 STATMT6 STATMT7 STATMT8 STATMT9/STB; By Company The "STB" option in the model statement instructs SAS to print the standardized regression coefficients. Results: Blue Cross vs the Top Three Competitors Simple regression lines did not provide sufficient visual impact for image analysis and comparisons of strengths and weaknesses between companies. For the graphs, the standardized beta weights for each variable (Statement 1-9) were multiplied by the average rating for the particular company on that statement. The result-
Cross vs its top 3 competitors (See Figure 1). As weights could not be examined for significance. The analysis also indicated from areas of comparative weakness for Blue Cross: 1) Blue Cross is not perceived as having the best benefits; 2) Blue Cross tends to be perceived as too big to handle individual health care needs compared to its top three competitors; 3) Blue Cross is perceived as slightly more of a computer-run vs people-run company than 2 of the top 3 competitors; 4) Blue Cross is seen as less caring about its customers than 2 of the top 3 competitors. Results: Blue Cross Before & After In addition to being able to compare overall corporate images between competitors, the study wanted to discover whether any shifts in the public’s perception had occurred during the time the ad campaign was in force. A repeated measures design would have been the preferred methodology, but given the nature of the survey, it was believed to present insurmountable problems (i.e. extremely low response rates were predicted based on past research, making interpretation difficult). Instead of a repeated measures design, the survey responses were dividing into those that were returned before the half-way point in the ad campaign and those that were returned after the mid-point. It was assumed that if the campaign was going to have an effect on general population attitudes, it would occur at or beyond the mid-point of the TV-Magazine-Radio-Newspaper ad campaign. The pre-campaign group contained 252 responses; the post-campaign group contained 281 responses. Incomplete responses were discarded for this analysis. A SAS* statement was used to select pre and post-campaign responses based on date of response return to BCNWO. Separate regression analysis were performed on each group using the PROCREG command and model statements mentioned earlier. The same method of multiplying standard beta weights and average ratings on each statement was used for the pre and post-campaign responses. The results can be seen in Figure 2. There were shifts in responses to four statements between pre and post-campaign responses: 1) This company provides the best benefits; 2) I would have no problems using this insurance anywhere; 3) I would feel very secure with this health care coverage; U I would have no problem using this health care coveragE U. Incomplete responses were dividing into those that were returned before the half-way point in the ad campaign and those that were returned after the mid-point. It was assumed that if the campaign was going to have an effect on general population attitudes, it would occur at or beyond the mid-point of the TV-Magazine-Radio-Newspaper ad campaign. 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Due to multicoillinearity, the magnitude of the difference between pre and post-campaign beta weights could not be examined for significance. To test if the shifts in opinion were significant, a stepwise multiple regression analysis was run to obtain pre and post-campaign changes in R2 for each variable using: PROC STEPWISE; MODEL CHOICE=STATMT1...STATMT10/MAXR; The procedure allows SAS to construct the best 1 variable model (based on R2 accounted for), 2 variable model etc. A significance test on the difference between the pre-campaign R2 and post-campaign R2 for each variable was performed. The results indicated that the shift on the statements "This company provides the best benefits in health insurance" and "The people in this company make an effort to show they care" were significant (p.<.05). Shifts on responses to the statements "I would have no problem using this health insurance anywhere in the country", and "I would feel very secure with this health care coverage" approached significance (p.<.06). The results indicate a major shift in opinion. According to significance testing, it is highly unlikely (odds less than 1 in 100) that the shift is due strictly to chance. Although it cannot be stated with certainty, the much higher probability is that the shift in opinion was due to the Blue Cross ad campaign, which was on-going at the time. Generalization of the Technique The image analysis in the study can be easily adapted to fit other corporations, regardless of the products of services involved. Step 1: Survey Development The selection of cues (independent variable for the regression analysis) will depend on which factors the corporation considers important to its business image. However, several categories may be common to most: ratings of Customer Service personnel, ratings of Sales Representatives, ratings of the corporation’s willingness to respond to individual customer comments/suggestions/complaints, ratings of price appropriateness for the corporation’s products or services, and ratings of how congruous the corporation’s “behavior” is with its advertised image. All of these variables can all be considered as independent variables. The dependent variable should involve an overall ranking of the corporation. If comparisons with other companies in the field are desired, respondents should be given the opportunity to choose several companies and rank each on an overall scale and on the independent variables. Step 2: SAS Commands Regardless of the scales and scale ranges used, for ease of interpretation, it is recommended that the PROC STANDARD command be used to standardize all data for each manipulation, several regression options are available: PROC REG or PROC STEPWISE can be used for the final analysis. Due to concerns with multicollinearity (intercorrelations between the independent variables), if magnitudes of the independent variables’ influence on the dependent variable are to be examined, PROC STEPWISE is recommended because it will provide an examination of R2 increases for each independent variable. CONCLUSIONS Using relatively simple SAS techniques, an Image Analysis, Image Comparisons with top competitors, and the effects of the Blue Cross ad campaign could be analyzed in house at BCNWO. A consulting firm offered a similar analysis (but was limited to reporting their results in means and frequencies) for approximately $16,500. The BCNWO Image Study was done in-house for less that $9,000, using more sophisticated, statistical techniques which allowed the exact
pinpointing of the public's perceived strengths and weaknesses of Blue Cross and its top competitors. The results allowed management to devise marketing strategies capitalizing on these strengths and enhancing areas of relative weakness. Clearly, SAS procedures can be simple to use, relatively inexpensive, versatile tools in an applied research setting.
FIGURE 1
Blue Cross Image Study
Blue Cross vs. the
Top Three Competitors

LEGEND

Blue Cross
----- Competitor 1
-.-. Competitor 2
. . Competitor 3

Strongly Agree

Strongly Disagree

Level of Agreement

Size Interest Secure Service

Bestben Location Computer Money Caring
FIGURE 2
Blue Cross Image
Pre vs Post Campaign

LEGEND
- Pre Campaign
- Post Campaign

Level of Agreement

Bestbuy Location Computer Money Caring
Size Interest Secure Service

Strongly Agree

Strongly Disagree