2000 Vermonter Poll: Trust in Various Sources of Agricultural Information

Introduction

Consumers often rely on a variety of sources of information when forming opinions on agricultural issues. The government, the media, businesses, and educational institutions all work to inform and persuade consumers. An important aspect of informing the public is gaining trust. In order to be believed and listened to, an organization must be trusted.

Individuals assign different levels of personal trust to each of these different groups. The public also forms judgements on the reliability and credibility of these mediums (Mazis, 1997). The focus of this study is to:

1. *Ascertain the different levels of trust Vermont residents have in these various sources of agricultural information;*
2. *Examine how different demographics play a role in levels of trust;*
3. *Investigate how levels of trust influence the way Vermont residents feel about agricultural issues; and*
4. *Investigate how levels of trust influence what Vermont residents think are important research topics.*

To make it possible to look at these relationships we broke down the sources of information we previously listed into workable units based on how that group communicates agricultural information. The major governmental sources of agricultural information are the Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA). The business interests use advertising to inform consumers. The media uses a variety of mediums including the written media, broadcast media such as television and radio, and most recently the Internet to reach the public. Finally, universities, such as the University of Vermont, use a variety of media to convey information to the community.

Data and methods

The data used in this report were collected by the University of Vermont's Center for Rural Studies in their annual "Vermonter Poll." The poll was conducted between the hours of 5:00 p.m. and 9:00 p.m. beginning Monday February 14, 2000 and ending two weeks later on Thursday February 24, 2000. The poll was conducted at the University of Vermont using computer-aided telephone interviewing (CATI). The sample for the poll was drawn through random digit dialing and used all the telephone exchanges in the state of Vermont as the sampling frame. Only registered voters over the age of eighteen were interviewed. The poll included questions on a variety of issues related to public policy in the state of Vermont.

There were 697 respondents to the Vermonter Poll. The median age of respondents was 51. The median income for respondents was between $35,001 and $50,000. Also, the median respondent had some college education but no degree. Throughout the testing we weighted our sample cases using a geographic weight to make the sample more representative of the population. The only time we did not use the weighting was when we compared the influence of geographic location on trust.

The Vermonter Poll also asked its respondents to rate, from one to ten, the types of sources they would be most likely to trust regarding agricultural information. The interview schedule presented the trust question section as follows:

> *There are various organizations and sources that provide information about agricultural technology, which includes things such as biotechnology, new methods of food storage, and genetic information. On a scale of 1 to 10, with one being least trustworthy and 10 being the most trustworthy, how trustworthy do you find the following sources of information about agricultural technology.*

Following this brief statement there were seven questions. These questions were numbered 95 through 102. The questions dealt with the trustworthiness of the following sources of information in the order they are presented. Blank spaces indicate where a ranking is to be made. These were the questions:

- U.S. Food and Drug Administration also called the FDA_____
- United States Department of Agriculture also called the USDA____
- University of Vermont_____
- Written media such as Newspapers and popular magazines_____
- The media, including television, radio news____
- The Internet_____
- Advertising_____

We then took these rankings and analyzed them in three steps. We began by looking at each trust ranking individually in order to determine the median rank for that particular form of communication. We expected that there would be differences between groups in the levels of trust. We also hypothesized that advertising would be ranked lowest of the various sources of information based on the finding of previous studies (Sugarman and Morin, 1992).

Next, we compared these trust questions with demographic information in order to ascertain if there were certain characteristics that are related to people being more or less trusting of a

particular medium. The demographics we looked at were gender, age, employment status, family composition, income, education, and geographic location.

We also conducted an analysis of how trust influences what Vermont residents know about genetically modified organisms (GMO) and how they feel about biotechnology. We chose the topic of GMO's due to the recent attention focused on this issue and the amount of consumer concern surrounding potential dangers of these products (Sheehy, 1998). We expected that the level of trust a person has would be related to whether or not that person could pick out the correct definition of what a genetically modified organism is when given two possible choices. We also expect that there will be a correlation between a person's level of trust of the FDA and their beliefs of whether or not the FDA can effectively regulate biotechnology.

Finally, we looked at how trust effects what people believe concerning the importance of future research in several different areas. These areas included competitive agriculture, forest management and Vermont's landscape, protecting the environment, community economic development, Internet access and use, and having a safe and secure food supply. We expect to see relationships between trust of various media sources and which areas are seen as most important for research.

We used the computer software package SPSS (Statistical Package for the Social Sciences) for statistical analyses.

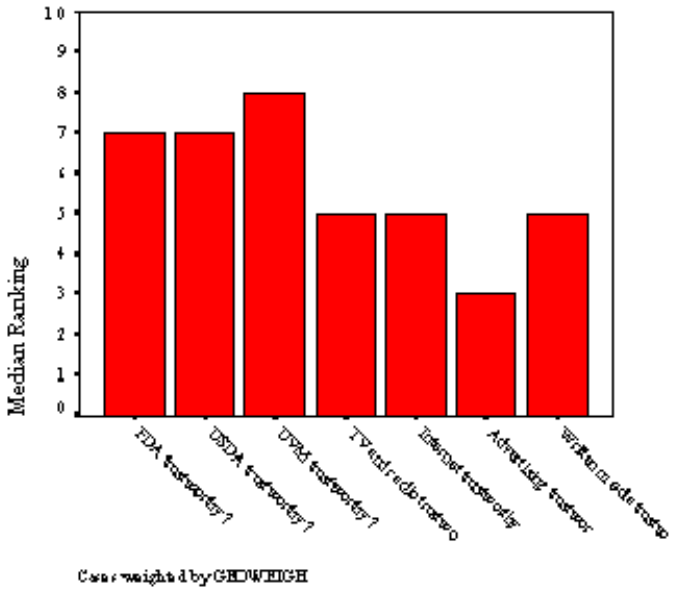
At several points in our analysis we re-code data. For instance, we took each trust question and broke the respondents up into three categories depending on their responses. People, who ranked a particular medium as being untrustworthy by giving a ranking in the lowest 25th percentile of the scores, were placed into a group we termed as being "suspicious." This term signifies that the individual is suspicious of the particular medium being discussed. The people who were the most trusting of a particular form of information were those in the 75^{th} percentile. These people were given the label "trusting" for that particular group. These "trusting" people did not necessarily trust this organization. These people simply ranked the source higher than those we termed suspicious.

Neither of these terms is meant to imply that it is better to be in that one group or the other. These terms are simply shorthand used to simplify matters. Those people who fell in the middle of these two groups were termed "middle of the road." With these issues in mind we can begin to look at the results of our analysis.

Results

We began our analysis by determining the different levels of trust Vermont residents have in each of the sources of information. The median ranking of each organization is shown below (Figure 1, bar graph).

Figure 1: Median rankings of the trustworthiness



Having ascertained the different levels of trust people have in the various sources of information we began to look at the role demographics plays in a persons level of trust. The demographics we examined were education, income, employment, location, family composition, and gender.

From the data we found numerous significant relationships between educational attainment and how trustworthy respondents found the different sources of agricultural information. These findings are listed below.

♦ Fewer people with a Bachelors degree or higher (14.8%) were likely to find the *FDA* trustworthy than people who did not graduate from high school (31.6%) (p-value =.002)

♦ Fewer people with a Bachelors degree or higher (12.5%) were likely to find the *USDA* trustworthy than people who did not graduate from high school (34.6%) (p-value =.001)

♦ Fewer people with a Bachelors degree or higher (11.6%) were likely to find the *University of Vermont* trustworthy than people who did not graduate from high school (40.4%) (p-value =.000)

♦ Fewer people with a Bachelors degree or higher (8.2%) were likely to find the *broadcast media* (television and radio) trustworthy than people who did not graduate from high school (30.4%) (p-value = .000)

♦ Fewer people with a Bachelors degree or higher (13.5%) were likely to find the *Internet* trustworthy than people who did not graduate from high school (46.3%) (p-value =.000)

♦ Fewer people with a Bachelors degree or higher (11.6%) were likely to find advertising trustworthy than people who did not graduate from high school (45.5%) (p-value =.000)

From our analysis we found no significant differences between educational attainment and the perceived trustworthiness of the written media. Based on these results we can say that there was a moderate, negative correlation between a person's level of education and how trusting they were. This means as educational attainment increased, trust in the various organizations decreased.

We then began to look for any significant and meaningful relationships between trust and location, employment, family composition, and gender. From the data we found very few correlations between trust and the demographics. There were a few relationships between the data.

♦ More people living in Chittenden County (19.2%) were found to be suspicious of the *University of Vermont* than people living in the Northeast Kingdom (11.7%) (p-value = .066)

♦ However, more people living in Chittenden County (16.5%) found the *University of Vermont* to be trustworthily than people living in the Northeast Kingdom (11.7%) (p-value = .066)

♦ More people living in Northeast Kingdom (24.2%) were found to be relatively trusting of *advertising* for agricultural information than people living in the Chittenden County (15.6%) (p-value = .044)

From the results we can see that people who live in Chittenden County are more split over their trust of UVM. People in Chittenden County are more likely to be highly trusting of UVM or highly suspicious. People in the Northeast Kingdom tend to have a more neutral opinion of the University of Vermont.

There were a few other relationships between trust and these demographics. However, nothing meaningful could be determined from them with regard to their influences on how trustworthy a person finds a particular source of agricultural information.

To analyze the differences between age and trust we used an ANOVA statistic, which is an acronym for an analysis of variance. We looked at the differences between the ages of people who we found to be trusting, middle of the road, and suspicious. There were statistically significant differences in all the cases. However, the only meaningful values for our analysis are the ones where there is a difference between the people whom we labeled trusting and those we labeled suspicious. Furthermore, the differences are only meaningful if the ages are substantially different. In this case only two sources of information have significant and meaningful differences. The differences in estimated mean age can be seen in below (Figure 2 and Figure 3, error bar graphs)

Figure 2: Estimated mean ages of respondents grouped by trust in the Internet (p-value = .000)

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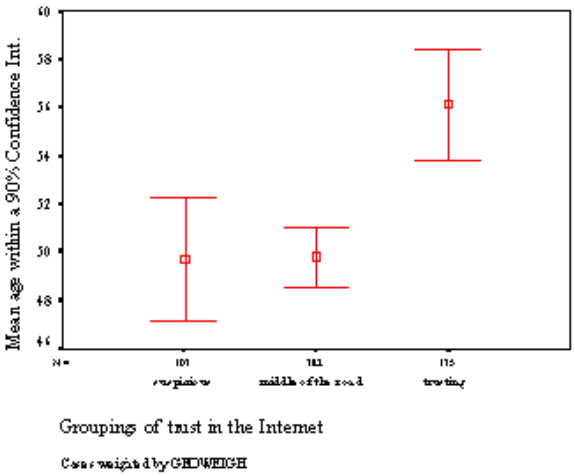
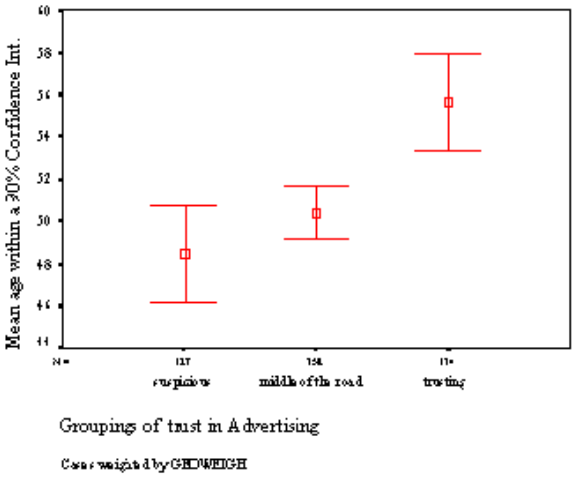


Figure 3: Estimated mean ages of respondents grouped by trust in advertising (p-value = .000)



Our analysis of the effect of income level on trust yielded three significant results.

♦ More people with an income of less than $35,000 (27.8%) found the *University of Vermont* to be trustworthy than people with an income greater than $65,000 (8.7%) (p-value = .000)

♦ More people with an income of less than $35,000 (22.4%) thought the *broadcast media* was trustworthy than people with an income greater than $65,000 (6.3%) (p-value = .000)

♦ More people with an income of less than $35,000 (33.5%) found *advertising* to be relatively trustworthy than people with an income greater than $65,000 (12.4%) (p-value = .046)

From these results we see that as the level of income *increases*, the likelihood of being relatively trusting of the University of Vermont, corporate advertising, and broadcast media *decreases*.

For the third section of analysis we looked for any statistically significant and meaningful differences between the respondents' level of trust and whether or not they knew the correct definition of GMO. Respondents were asked to choose between two possible definitions of what a genetically modified organism is. The results of this question are given below (Figure 4, table).

Figure 4: Table of the frequencies and percentages of whether or not a respondent knew the definition of GMO

	Frequency	**Percent**
Correct definition	160	31.1%
Incorrect definition	267	51.8%
Don't know the definition	88	17.2%
Total	**515**	

We found one significant and meaningful relationship when we compared a person's level of trust with whether or not they chose the correct definition of GMO. Regarding genetically modified organisms we also looked at one more question. The question dealt with a person's confidence in the FDA/EPA to regulate GMO's effectively. We analyzed the level of trust in FDA with respect to whether a person agrees, disagrees, or is neutral with the statement that they are confident in the FDA/EPA's ability to regulate GMO's. As we expected, there is a difference between level of trust in the FDA as a source of agricultural information and confidence in the FDA/EPA's ability to effectively regulate genetically modified organisms. These two results were as follows:

♦ More people who were suspicious of the Internet (41.2%) were likely to know the correct definition of what a GMO is than people who were trusting of the Internet (22.3%)

(p-value = .053)

♦ Of the respondents who thought the FDA was trustworthy (16.87%) for agricultural information 32.5% of them did not believe the FDA/EPA could effectively regulate GMO's

(p-value = .000)

Finally, in our last section of analysis we examined how differences in levels of trust affect what areas of research people see as being the most important. The areas we gave as possible choices were: competitive agriculture, forestry management and Vermont landscapes, protecting Vermont's environment, community economic development, Internet access and use, and a safe,

secure, healthy food supply. People were allowed to choose the top three issues they felt were most important.

We analyzed the data and found that although there were some statistically significant differences, there were no meaningful conclusions that could be drawn from these differences.

Conclusions

We have looked at the levels of trust Vermont residents have in some of the sources of agricultural information. Our results seem to suggest that the University of Vermont is the most highly trusted source of agricultural information followed by the government (FDA and USDA), the media (print, broadcast, and Internet), and advertising.

Learning which sources consumers trust and why they trust them is valuable and important research. Once you know which sources of information are the most highly trusted by consumers you can then begin to use those specific sources to help keep the public better informed. As one consumer researcher put it, "Consumers respond differently depending on where they obtain their information." (Caudill, 1994)

Knowing which sources of information have the highest levels of trust allows you to focus, and target in on the appropriate mediums through which you can send your messages. However, it is also important to understand the underlying reasons why a person trusts a particular source of information.

For instance, we have seen from the results of this study that young, educated, and high-income individuals are less trusting, in general, of most of the sources of information. Researching why these certain groups of people are less trusting, and finding what sources they do trust, could be important information for different special interest groups. If we can find better ways to communicate to these suspicious populations we will be able to inform them, and perhaps influence their beliefs and actions.

Beliefs concerning genetically modified organisms are but one of the many agricultural issues which such an understanding of consumer trust could affect. There are numerous, controversial agricultural issues being discussed in Vermont, the United States, and throughout the world. Research in consumer trust gives us valuable tools to assist the proliferation of accurate, reliable of information, and to help us be sure it will be well received by the public.

References

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