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Using Technology to Survey New Audiences

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Using Technology to Survey New Audiences

Abstract

A touch screen computer was set up at a state fair to assess citizen water quality concerns. Over 500 people took the survey. The researchers were able to reach citizens from both urban and rural areas. Respondents were aged from 18 to over 75. Most respondents (41%) felt that clean drinking water the most important water quality issue.

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Introduction

Assessing citizen understanding and concerns about water quality issues in order to plan educational activities and programs can be challenging. The authors wanted a survey method that was relatively inexpensive, convenient for staff to administer, gave quick and accurate feedback, and would include a representative group of citizens. These criteria were met by using a touch-screen computer at a large, informal public venue, a state fair.

Touch screen technology is becoming very common. It is used in most PDAs and was used in voting machines in a few states in the 2004 presidential election. Health information has been available in public access kiosks since the early 1990s utilizing touch screens, and there is some evidence that they could improve physical access to health information (Jones, 2003).

In a recent study of patients' acceptance of a computerized screening using touch screen technology, 95% of users found it easy to use the touch screen and understand the instructions, even those with little computer experience. Furthermore, 74% of the patients preferred a computerized feedback over feedback from staff members (Karlsson, Bendtsen, 2005). In a study investigating the effects of interaction devices on performance of older users, results indicated that participants using touch screen were faster and less frustrated than participants using voice control and mouse (Rau, Hsu, 2002). Getting information or answering a survey on a computer is attractive to some people because of the anonymity it offers. Because it reduces human interaction, it also reduces constraints that participants may feel to answer questions honestly.

Methods

A computer with a touch screen display was set up at a state fair in 2003. The fairgrounds are located within a fairly large city (population 784,000) and attract both urban and rural people. Fairgoers have set time aside to enjoy the day and may have more time to complete a survey than when they are called at home, stopped on the street, etc. The computer was set up in an air-conditioned building (always a draw on a hot August day) and monitored by Extension staff who were on-site to answer general questions and keep an eye on a number of educational displays.

The touch-screen, computerized survey required participants to rank water quality issues and indicate the strength of their feelings about each issue. The survey was programmed, using Macromedia's Director software, so that issues were randomly presented to remove the influence of order preference. The touch screen monitor has software that is easily loaded on the computer to adapt the program to a touch screen response format. The touch screen monitor and computer rented for the duration of the fair.

Results

A total of 511 people completed this survey. Of the 960 people who started the survey, 322 were removed because they were under 18, and 127 people quit before completing the first phase, ranking of the seven water quality issues. Forty percent (40%) of the respondents reported living in a large city or suburb, and 14% were from farms (Table 1). The largest number of respondents, with respect to age, was in the 35-44 year age group, although people 18 - 54 were fairly equally represented (Table 2). Gender of respondents was not determined, so the authors do not know if more women or men took the survey.

Table 1.
Respondents By Place of Residence

Residence	Number in Category	%
large city	121	24%
suburb	86	17%
city,50-500K	51	10%
city,10-50K	58	11%
town,5-10K	38	7%
small town	45	9%
rural, non farm	41	8%
Farm	71	14%

Table 2.
Respondents by Age

Age Categories	Number in Category	%
18-24	96	19%
25-34	84	16%
35-44	116	23%
45-54	93	18%
55-64	50	10%

65-74	30	6%
75&up	42	8%

Most respondents (41%) felt the most important water quality issue is "supply of clean drinking water." Significantly lower numbers indicated that "wastewater treatment" (15%) and "community planning resources" (13%) were the most important issues facing local communities. Other issues (ag production issues, surface water quality, health of aquatic ecosystems, and water-based recreational opportunities) were chosen as the most important issue less than 10% of the time.

Rankings were also examined by characteristics of the respondent. Each demographic group felt that "supply of clean drinking water" was the most important issue, except respondents 65-74 years old, who chose "wastewater treatment" as the most important issue (26% ranked it first). Respondents 18-24 years old gave "supply of clean drinking water," "wastewater treatment," and "community planning resources" nearly equal importance. Similarly, respondents 25-34 years old gave "supply of clean drinking water" and "wastewater treatment" nearly equal importance.

When analyzed by community size, most individuals chose "clean drinking water" as the most important issue, with the exceptions of people from towns of 5-10K, who chose "community planning resources" as most important, and people from small towns (less than 5K) and farms chose "ag production issues" as most important issue facing their community.

Conclusion

The touch screen computer and the state fair venue provided a very successful and cost effective method of data collection. The touch-screen computer made it fun and easy for people to give feedback in a relaxed, air-conditioned venue and at their own pace. The state fair was a great place to collect data to be used in planning Extension educational activities. Respondents from ages 18 to 75+ participated.

The feedback will enable us to develop programs that meet clientele need and to target those programs to specific clientele groups. Data handling was easy, and transposition errors were eliminated. The data was automatically saved, compiled, and input to an Excel file for further analysis. This technology could be utilized in other public spaces like libraries, shopping malls, office buildings, etc., for needs assessment, marketing, and providing Extension information to citizens in non-traditional settings.

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