



Australian Government
Bureau of Meteorology

Web Based Surveys

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Background

This report has been written in response to a request for information on the Australian Bureau of Meteorology's successful application of web-based surveys.

Information

After Queensland's Central and Western inland floods during January and February 2004, the Australian Bureau of Meteorology decided to run a Flood Impact Questionnaire on its national website. (See Appendix 1)

This survey was mixed-mode, where participants are offered the choice of completing the survey online via the Bureau of Meteorology website or by printing out the survey and sending it to us. Its method of presentation was a one-screen form that allows scrolling. Questions are a mix of radio, check and tick boxes, as well as typed responses.

A post flood impact report was written on the flood, and the information for this report was taken directly from the survey responses. (See Appendix 2)

Other Bureau survey forms have been referenced below:

- National website feedback form (<http://www.bom.gov.au/other/feedback/>) (See Appendix 3)
- Queensland Flood warning centre feedback form (<http://www.bom.gov.au/hydro/flood/qld/survey.shtml>) (See Appendix 4)

Lessons learned from Surveys conducted at the Australian Bureau of Meteorology

Flood Impact Questionnaire

- The survey was too long
- The survey was not specific enough
- The questions were too broad
- As the survey was anonymous, it was impossible to assist respondents who had criticisms and queries.
- Surveys can be utilized to disseminate information to the public

Advantages of Web-based surveys

"There is no other method of collecting survey data that offers so much potential for so little cost as Web Surveys"¹ Advantages of Web surveys are that they allow a faster response rate, as participants only need to click a button to submit the survey. Data is easier to process, since responses can be downloaded to a spreadsheet, data analysis package, or a database. Correspondingly data manipulation is easier, questions can be

¹ Dillman, 2000, p. 400.

sorted in a particular order, or gathered according to a pre-defined category. There is also the option of dynamic error checking, pop-up instructions for selected questions; and, the use of drop-down menus. These are possibilities that generally cannot be included in paper surveys².

As web surveys are self administered, respondents have control over how they choose to approach and answer each question. They can decide how long the survey will take them and the order that they want to complete the questions in etc. This would likely lead to a less biased and more comprehensive response, than say, a phone survey.

Privacy in Web-based surveys

Surveyors should be concerned about privacy issues for their respondents and the data that is collected. Cookies may not be appropriate and data should be secure on the server, you may want to use encryption. It is good to allow an alternate mode of completion if people are concerned about privacy.

It is essential that web surveys have privacy statements, as site information can be collected about respondents without their knowledge via java applets, cgi scripts and log file metadata.

Metadata is very informative and can help assess the effectiveness of a survey. One advantage of metadata is that if analyzed, the log files can show which particular survey questions and formats were difficult for respondents. Metadata may also allow the surveyor to know where the participant is via the top-level domain name and when the survey was completed.

Design of Web-based surveys

With the advent of web design, the possibilities for web survey format and look are innumerable. Web surveys can really take advantage of visual design elements like graphics, colour and images. One can use a number of response options (i.e. Drop down boxes, check & radio boxes, typed responses etc)

Knowing that "The design of a survey can affect response rate, the dropout rate, and even the responses themselves"³ and that "Non-verbal aspects of surveys such as physical layout and visual presentation can also notably influence answers"⁴ means that the format of the web survey should be well thought out and planned. A generic design format for a web survey is not advisable. The design should reflect the purpose of the survey, and some designs will be more effective depending on the number and types of questions that are being asked.

Principles for Constructing Web Surveys

It is essential that web surveys have design features, which are easy to comprehend, are interesting to complete and aren't time consuming.

² Holly Gunn, 2002. "Web-based Surveys: Changing the Survey Process.

³ Holly Gunn, 2002. "Web-based Surveys: Changing the Survey Process.

⁴ Smith, 1993, para. 2.

General survey principles should not be ignored, as they can enhance the web surveys effectiveness. A number of survey principles have been detailed below:

- Get feedback on the initial list of questions with a field trial.
- Make the survey simple, and have it take no longer than 20 minutes⁵.
- Give an estimated time that it will take to complete the survey.
- Be sure the first question is interesting, easy to answer, applies to all respondents and is relevant to the topic of the survey.
- Limit line length. Respondents are less likely to skip words when lines are short⁶.
- Don't make it necessary for respondents to answer each question before going on to a next one.
- Have response categories in progressive order (usually from lowest to highest)
- Place confidential/personal questions at the end of the survey⁷.
- Avoid response scale proliferation (i.e. Don't have a 10 point scale, if you can use a 5 point scale)
- Avoid asking participants to rank responses.
- Avoid open-ended questions,
- Avoid the response category of "other"

Language of Web Surveys

The primary form of communication in web surveys is via text but the language of the survey is visual. There are generally three types of visual language:

Graphic language: Alignment, fonts, font variations (underline, italics), borders and tables etc, helps respondents comprehend the survey

Symbolic language: Pictures which guide the respondent through the survey (i.e. arrows)

Numeric language: Allows respondent to quantify sections of the survey and their own responses.

These languages work together to effect the respondent's perception of the survey⁸ and can enhance their experience, if used appropriately.

References

Much of the information in this report was taken from Holly Gunn's paper on Web based Surveys, references come from her original report.

1. Don A. Dillman, 2000. Mail and Internet Surveys: The Tailored Design Methods. Second edition. New York: Wiley.

2. Don A. Dillman, Robert D. Tortora, and Dennis Bowker, 1998. "Principles for Constructing Web Surveys," Pullman, Washington. SESRC Technical Report 98-50, at

⁵ Elaine Zanutto, 2001. "Web & E-mail Surveys,"

⁶ Don A. Dillman, Robert D. Tortora, and Dennis Bowker, 1998. "Principles for Constructing Web Surveys," Pullman, Washington.

⁷ Robert B. Frary, 1996. "Hints for Designing Effective Questionnaires

⁸ Holly Gunn, 2002. "Web-based Surveys: Changing the Survey Process.

<http://survey.sesrc.wsu.edu/dillman/papers/websurveyppr.pdf>, accessed 6 December 2004.

3. Holly Gunn, 2002. "Web-based Surveys: Changing the Survey Process, at http://www.firstmonday.dk/issues/issue7_12/gunn/#note3, accessed 6 December 2004.

4. Robert B. Frary, 1996. "Hints for Designing Effective Questionnaires," ERIC AE Digest. ERIC Clearinghouse on Assessment and Evaluation,

5. Tom W. Smith, 1993. "Little Things Matter: A Sampler of How Differences in Questionnaire Format Can Affect Survey Responses," (no longer on-line)

6. Elaine Zanutto, 2001. "Web & E-mail Surveys," (no longer on-line)