

Developing and Applying Surveys

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Haleh Kootval

Chief, Public Weather Services

hkootval@wmo.int



Survey

- A method of collecting data via telephone, mail, or the Internet, in person
- Ordered list of questions to gather information in a systematic fashion
- Collects information and opinions from a representative sample of individuals on specific topics

Survey

- Conducting a survey: much more complex than just asking a group of people a series of questions
- Questions: should directly apply to solving an identified problem or issue
- Specific statistical methods: must be employed to produce usable information from questions

Survey delivery Mechanisms

- Can be administered in two ways: interview-based and self-completed
- Interview-based mechanisms:
 - face-to-face interviews
 - telephone surveys
- Self-completed survey
 - mailback surveys
 - hand-delivered questionnaires
 - Web surveys.

Survey Methods

Method		Positive	Negative
Face-to-Face Interview	A one-on-one conversation ranging from casual to highly structured	<ul style="list-style-type: none"> ✓ Obtain great level of detail ✓ Ability to observe non-verbal communication along with verbal responses 	<ul style="list-style-type: none"> ✓ Analysis of results time consuming ✓ Limited generalization to a greater population
Phone Survey	A one-on-one telephone interview ranging from casual to highly structured	<ul style="list-style-type: none"> ✓ Highly effective in generating timely responses ✓ Large numbers of surveys can be acquired in a short time period 	<ul style="list-style-type: none"> ✓ Skilled interviewer is needed ✓ A representative sample can be a challenge ✓ Respondents can end the call at will

Survey Methods

Method		Positive	Negative
Mail-Back	A collection of questions presented on paper in a sequential, systematic order that is received by mail, completed, and then mailed back to the researcher	<ul style="list-style-type: none"> ✓ generally less expensive than telephone surveys ✓ Participants better understand the questions 	<ul style="list-style-type: none"> ✓ Potential low rate of response ✓ No opportunity for clarification if a respondent doesn't understand a question
Hand-Delivered	Method where surveys are hand-delivered to respondents and mailed back to the researcher following completion	<ul style="list-style-type: none"> ✓ Generally greater response rate compared to mail back ✓ Provides an opportunity for face-to-face interaction 	<ul style="list-style-type: none"> ✓ Limited opportunity for clarification if a respondent doesn't understand an item ✓ High level of researcher engagement

Survey Methods

Method		Positive	Negative
Web Survey	A collection of questions presented in a sequential, systematic order completed via the Internet	<ul style="list-style-type: none">✓ Allows great speed and flexibility to respondents ✓ Little-to-no cost and minimal supplies required	<ul style="list-style-type: none">✓ Requires technical expertise ✓ Respondents can easily terminate the survey before completion ✓ Can be confused as SPAM

Constructing a Survey

- ***The Survey Purpose***

- Convey briefly necessary background information

- the survey purpose and goals
- the typical time requirement for completion
- measures taken to ensure confidentiality of individual responses
- thank the respondent

Constructing a Survey

- ***Level of Respondent Knowledge***
 - Highly informed
 - little or no knowledge
- ***Simple Wording***
 - simple questions
 - vocabulary and sentence to maximize the understanding of what is being asked

Constructing a Survey

- ***Minimize Questions***

- generally, the shorter the survey, the more accurate and complete the resulting information.

- ***Sequential Questioning***

- All survey questions should follow a logical and sequential order.

Constructing a Survey

- ***Write Neutral, Non-leading Questions***
 - the respondent should have the role of actually determining what needs to be addressed



Constructing a Survey

- ***Determine Appropriate Question Format***
 - open-ended and close-ended question
 - open-ended responses provide in-depth information
 - close-ended questions are answered by selecting a numeric, categorical, or other pre-constructed
 - When using a multiple-choice question format, it is useful to have a choice for *No Opinion* or *Not Sure*, as well as an *Other* category

Constructing a Survey

- ***Rating Scales***

- measure attributes such as quality, satisfaction, or level of agreement, example:
- *rank on a scale of 1 to 5 how satisfied you are with the tropical cyclone warnings issued by the Met Service*

Constructing a Survey

- ***Avoid Combined Questions***

- confuses a participant's response. Example:

- *Do you listen to the radio or do you watch TV to get your weather forecasts?* It is best to ask as two separate questions:

- *Do you listen to radio to get your weather forecasts?*

- *Do you watch TV to get your weather forecasts?*

- Or to combine them:

- *How do you get your weather forecasts? Please check all that apply.*

- *radio*

- *TV*

Constructing a Survey

- ***Demographic and Sensitive Information***

- Place questions on gender, age, income, etc. at the end of a survey. This information requires minimal thought of the respondent.
- Only place a demographic item at the beginning of a survey if it directly relates to the research question

The report

Comprehensive, clear and orderly

- **Executive summary** – Describes the essence of the entire document in a single page.
- **Study purpose** – Describes the research question or problem trying to be solved by the study.
- **Methods** – Identifies the population of interest, desired sample size, sampling strategy, data collection methods, and steps to be taken to ensure an adequate response rate. This section should also identify proposed data analysis methods.
- **Results** – Presents the study outcomes or findings, usually using tables and graphs in conjunction with narrative text.
- **Discussion and management implications** – Interpretation of results and discussion on the possible implications of the newly acquired knowledge

PWS Surveys

<http://www.wmo.int/pages/prog/amp/pwsp/surveys.htm>

- [Sample surveys](http://www.wmo.int/pages/prog/amp/pwsp/surveys.htm)
- Full reports of NMHSs surveys



Thank you