Survey Design and Implementation Team Report 2010/11

Submitted by Peter Granda and Dan Gillman, Co-Chairs

Team Members

- Karl Dinkelmann, University of Michigan, Survey Research Operations
- Dan Gillman, Bureau of Labor Statistics, Co-Chair
- Peter Granda, Inter-university Consortium for Political and Social Research (ICPSR), Co-Chair
- Sue Ellen Hansen, University of Michigan, Survey Research Operations
- Janet Harkness, University of Nebraska - Lincoln
- Pascal Heus, Open Data Foundation (ODaF)
- Jeremy Iverson, Algenta Technologies
- Tom Piazza, University of California, Berkeley
- Wendy Thomas, University of Minnesota
- Adam Zammit, Australian Consortium for Social and Political Research Incorporated (ACSPRI)

History

Since samples and questionnaires are major parts of most social science surveys, it is necessary for the DDI to have the means for describing sampling and questionnaire designs for users of social science data. To date, this has not been the case. The Survey Design and Implementation working group under the Expert Committee undertook the effort to add study design features to the DDI beginning in the summer of 2008. Peter Granda (ICPSR) and Dan Gillman (BLS) were asked to be co-chairs by Mary Vardigan at that time. The group quickly honed in on the need for sample and questionnaire design sections, though many other design issues were discussed.

After initial discussions and action plans, group members realized they had expertise or interest in one or the other of these areas, so the members split into two subgroups: one for sample design, chaired by Dan, and the other for questionnaire design, chaired by Peter. The subgroups met independently and kept each other abreast of progress through email and document exchanges and monthly teleconferences. One member of the Technical Implementation Committee (TIC), Wendy Thomas, acted as advisor during the development, and she helped guide the work into the spreadsheet framework necessary for inclusion into DDI. Controlled vocabularies were also discussed, and each subgroup developed some during their work.

Approximately a year ago, both subgroups had developed their drafts sufficiently for internal testing purposes. The results of the testing and a description of the final draft specifications follow in the next two sections.

Progress on Questionnaires

A fully developed proposal for including a major revision in DDI to extend the specification directly into the broad area of questionnaire design and development in surveys is, we believe, ready for review by the Expert Committee. The subgroup also worked closely with Wendy Thomas of the TIC who provided advice and made final revisions to the spreadsheet used to model the recommendations. As Wendy herself described this initiative:

The goal is to create a section focused on questionnaire design and development that supports the following:

- Describe a development plan
- Prescribe the sequence for the development process
- Capture the results of the development process (individual steps and overall)

Our model concentrates on describing the specific workflow processes involved in designing questionnaires and testing them before fieldwork begins. Each process is associated with a specific development objective and includes new DDI elements and attributes to capture such activities as:

- Questionnaire reviews by cognitive experts
- Questionnaire evaluations by focus groups
- Testing of questionnaires through cognitive interviews
- Translations of questions between different languages
- Pretesting of the questions prior to implementing them in production mode
- Other activities

Wendy summed up the purpose of this model as follows:

This structure allows for an organization to use this section to capture the overall conceptual development plan, detail the process steps, and record the results of the development. At a minimum a description of a development plan purpose or objective plus any overall results can be captured by this section making it flexible enough to provide detail for organizing, performing, and capturing the results of a development process or simply noting that a generally described plan was completed successfully.

It is expected that the questionnaire development plan will be officially added to the DDI in the next (3.3) release.

Progress on Sampling

The draft has made substantial progress from last year. The element set was divided into several parts: 1) elements for describing the frame in general; 2) elements for describing a sampling plan in general; 3) elements for describing the use of the frame and sampling plan in the methodology section of a study; and 4) a controlled vocabulary for defining specific one stage sampling methods, such as simple random

sampling. The element set is capable of describing very complex sample designs, including stratification, multi-stage designs – including clustering, and the ability to describe different sampling methods on discrete subsets of a sample. These element sets were tested against existing sampling plans at the US Bureau of Labor Statistics and the University of California – Berkeley. Based on these tests, some minor adjustments to the sets of elements were made. In addition, the elements can also be used to describe a model based plan, but this has not been tested yet.

Afterwards, we sent the elements to the TIC for review. Many definitions were modified, and the element sets were put into the context of the DDI. The frame and sample plan descriptions are both reusable. The current draft of the framework is being tested by the TIC in the user community. It is expected that the sampling plan will be officially added to the DDI in the next (3.3) release.

Future Work

Some members of the SDI would like to continue further development of design features of a survey for the DDI. Weighting, non-response adjustment, and others were proposed, and weighting was seen as an important next step. Paradata was discussed, too. Few in the group feel they have the expertise in this area, and we feel that a new group should be devoted to that topic.