



OISE/UT TRENT VALLEY CENTRE

AUTOMATED DATA CAPTURE AND REPORTING SERVICES

Providing years of experience and current technology for efficiency, accuracy, and cost reduction.

FOR DEPARTMENTS, FACULTY, AND STUDENTS CONDUCTING QUANTITATIVE DATA COLLECTIONS

Many researchers enter surveys manually because the available options are too inflexible to meet their needs, are seriously error prone, and/or require lengthy turnaround time. For example, response sheets provide a limited range of response options and may be restricted to proprietary forms. Error rates are inflated by study participants reading prompts on one document and recording responses on another and by the restricted ability of the software to recognize and verify responses.

Using data capture software **Cardiff Teleform v9**, with its superior recognition capabilities (machine print OCR, hand print ICR, and checkbox OMR), combined with a high-production scanner guarantees high-accuracy and reduces processing time by 75%. The services described below provide support for sophisticated researchers (form design and data capture) as well as to less experienced investigators.

1. Form Design

A) New Forms

A well-designed, attractive survey form increases the accuracy of responses and the rate of return. I offer years of experience in designing automated content capture survey forms for a multitude of data collections, including forms in foreign languages, and for a wide range of respondent groups. Survey items received in electronic or hardcopy format, will be arranged in a compact, clean survey instrument that respondents will find inviting. The items can include graphics as well as text. Copies of the survey instrument can be printed with a unique ID number to identify groups (e.g., courses, schools, districts, etc.), which enables researchers to maintain a high level of confidentiality and monitor rates of return. Forms can be saved in Acrobat Reader format and emailed to you for printing and distribution or you may choose to use the printing services of the Centre.

B) Existing Forms

An existing survey form that has already been produced or distributed can be scanned and a template created to automate the data capture process.

2. Data Capture

Completed forms are scanned using a high speed scanner and the content captured using powerful recognition technology. Large groups of forms are handled efficiently and accurately. The scanner handles double-sided print, multiple pages, and will auto-select paper size. When scanning, questionable responses (i.e., out of range responses and multiple responses when only one answer is expected) are detected and corrected. All data are saved in an Excel or SPSS file.

3. Data Analysis

Data collections require varying degrees of analysis. Using **SPSS v13**, a number of statistical analysis operations can be performed:

- assemble items into scales, calculate their reliability, and improve scales using item-total correlations;
- produce descriptive statistics such as frequencies, means, standard deviations, and tests of normal distributions (skewness and kurtosis); and
- conduct basic inferential statistics such as t-tests, one-way anovas, and correlations.

4. Reporting

Reporting the analysis in a visually pleasing format is key to helping the reader understand the results of the data collection. Results can be organized in tables in APA format and/or bar graphs for all variables in the study. Results can be reported for the total sample and for each subgroup in the study. For example, reports can be produced for individual schools. Reports are generated in Crystal Reports and printed in Acrobat Reader format. Tables can be saved in various file formats.

5. Archiving

The scanned survey forms are collected (usually in batches by ID number) in the image archiving software program **PaperBuster**. The batches are then exported in Acrobat Reader format, and moved to a CD. The data analysis syntax output and reports are included. As archived images are now accepted as documentary evidence, this final process allows for easy storage and retrieval of the images and data files.

*The Trent Valley Centre will arrange for pick up and delivery and will cover the costs of courier service to and from OISE/UT.

A number of OISE faculty and departments are already using our services. For more information contact Carolyn Brioux (705) 742-9773 Ext. 2293, cbrioux@oise.utoronto.ca