

CONFERENCE OF EUROPEAN STATISTICIANS

Workshop on Statistical Data Collection

WP.4-7

10-12 October 2017, Ottawa, Canada

12 September 2017

CORStat as a tool for managing surveys and interviewers

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Abstract

Nowadays more and more countries are changing the data collection system in surveys, going from PAPI to electronic methods i.e. CAxI. It causes the need to modernize the infrastructure and technology associated with data acquisition management processes. This is very important, especially if:

- data is acquired through multiple electronic methods,
- a large number of surveys are conducted by an organized network of statistical interviewers, especially if the same interviewers perform surveys, that are thematically various,
- there is a division of roles in the interviewer network and in the units designed to allocate, monitor and settlement the interviewers' work.

To meet these conditions it is required a tool (system) to automatically support the management of multiple surveys and interviewers conducting surveys, that are thematically various, at the same time. Management includes all data collection channels in each survey (CAxI methods), including channel change during the survey, planning task allocation for interviewers, monitoring, control and reporting, and current (during the survey) quality assessment of collected data.

Topic: **Modernisation of data collection management and integration of data collection infrastructures and technologies**

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Abstract

Presentation: "CORStat as a tool for managing surveys and field work of interviewers."

Nowadays more and more countries are changing the data collection system in surveys, going from PAPI to electronic channels i.e. CAxI (Internet, telephone, face to face with HH devices). It causes the need to modernize the infrastructure and technology associated with data acquisition management processes. This is very important, especially if:

- data is acquired through multiple electronic methods,
- a large number of surveys are conducted by an organized network of statistical interviewers, especially if the same interviewers perform surveys, that are thematically various,
- there is a division of roles in the interviewer network and in the units designed to allocate, monitor and settlement the interviewers' work.

To meet these conditions it is requirement to have a tool (system) supporting the management of multiple surveys and interviewers conducting various surveys at the same time. Management includes all data collection channels in each survey (CAxI methods), including channel change during the survey, planning task allocation for interviewers, monitoring, control and reporting, quality assessment of collected data during the survey.

"CORstat as a tool for managing surveys and field work of interviewers."

1. The use of paper questionnaires filled in by interviewers is already outdated. This is due to the high cost (the cost of the paper form, the storage and transportation of materials for survey, the introduction into the IT system of the collecting data and data processing), long time of development of the results and the excessive burden of interviewers.
2. The basis for collecting data based on ICT systems and tools was to seek to eliminate the disadvantages mentioned above. Equally important was the improvement of data quality, because using automated logic control and validation systems for data entered into a form application, errors resulting from inattention when entering data into the form or in the next stage into the IT system can be effectively avoided.
3. Surveys carried out on an ongoing basis throughout the year (with various intensity and at different times depending on the type of survey) in Poland are conducted by interviewers organized in a network distributed over 16 independent regional offices.

The network includes field and telephone interviewers. Interviewers are assisted by inspectors (supported by CORstat system) who assign surveys to them to realization and monitor, control and account their work. Work load is assigned in such a way that one interviewer performs the survey at a relatively short distance from the place of residence. If in the area of interviewer's action, addresses have been drawn to various surveys, they are assigned to the same interviewer, irrespective of the survey topic. This is related to the cost savings of reaching the respondents. The only limitation of addresses assignment may be an excessive work load on the interviewer at some point.

4. Data collection in surveys is implemented by the CAXI methods (CAII - Computer Assisted Internet Interview and CATI - Computer Assisted Telephone Interview, and CAPI - Computer Assisted Personal Interview). Usually, in each survey, methods are combined, i.e. sequentially individual channels are activated. The allocation of addresses to individual data collection channels is managed by the survey coordinator. If necessary, the coordinator during the survey may withdraw the survey from one channel and redirect it to another.
5. The multiplicity of surveys, multichannel data collection, and various surveys conducted by interviewers at the same time is supported by CORstat i.e. an IT system to systematise and automate the data collection process for:
 - a. planning the implementation of interviews for each interviewer in each survey,
 - b. organization of addresses assignment to interviewers for interviewing,
 - c. preparing the work load of interviewers,
 - d. monitoring and control of interviewers' work,
 - e. current validation of forms completion,
 - f. the current decision to choose or change the data collection channel,
 - g. creating reports.
6. An additional impediment / challenge for system functionality is the need to separate data for individual (16) regional offices on data collection stage and combine for data processing and analyzing stage.
7. A very important requirement for CORstat is also the ability to collaborate and exchange data with other systems that support data collection in CAXI channels.
8. CORstat system has been designed and built by the staff of the Statistical Computing Centre in the Central Statistical Office. CORstat allows for extensive automation of activities as well as manual work where human intervention and non-standard activities are necessary.
9. When developing the assumptions for the system, its authors launched on the intranet site a discussion forum for future users of the system. The purpose of this forum was to exchange information on the usability requirements of the system and its functional capabilities. The discussion forum was also used by the authors to inform users about gradually implemented (developed) functions and anticipated dates of subsequent activation. Thanks to the such organized work, the authors designed and implemented strictly the needs reported by users and additionally proposed their own solutions

supporting the fulfillment by the system its role. The interaction of all interested people allowed the creation of a product that received a high rating from its users.

10. All surveys conducted in a given year are implemented to CORstat and all persons who are subject to the system programming (interviewers and telephone interviewers) and those who have an influence on the management of interviewers and surveys (inspectors, coordinators and system administrators) are entered. Scope of duties and responsibilities was assigned to each role, which means access (or its limitation) to the particular functionality of the system. Only the main administrator of system has unlimited authority to perform all operations on the system. Defining a role is flexible because someone who acts as a coordinator in one survey, may be a telephone interviewer in another or inversely.
11. CORstat management is backed up by GIS functionality, making it much easier to plan the assignment of addresses on the map and monitor interviewers' field work. One of the solutions (in the field of interviewers' work control) is to measure the distance of the interviewer's position using GPS technology (by detecting the device on which the interview is conducted) from the address chosen for the survey of the subject. This measurement is made at the time of the interview. Individual cases of excessive distances are explained and omitted. These situations are especially analyzed when they start to repeat with specific interviewers.
12. A solution has recently been launched to automatically allocate all addresses on the map from a given edition of survey to the interviewers working in the given area. It is also possible to correct manually the assignment of addresses for both individual cases and addresses groups - if necessary.
13. Another new designed feature of CORstat is the ability to schedule an interviews by an interviewer after receiving an address pool for surveying. This is done automatically in the form of a tabular calendar simultaneously mapped on the map. Also in this case is the possibility of manual correction.
14. The solutions described above take into account:
 - current interviewers work load on all surveys that are in progress,
 - the daily working time of the interviewer,
 - travel time to address,
 - time of interview.

The planning functionality referred to is equipped with control functions that keep track of the daily work load of the interviewer and, in the case of an excessive load on a given day, signal them with the appropriate message.

15. CORstat is a mature system for interviewers and surveys managing. Nevertheless, it is constantly being refined and developed. It is also user friendly. Particularly important is the fact that it is software developed, built and operated within the framework of statistics, allowing to modify it to users order.
16. CORstat is planned to be used in the forthcoming round of censuses (the Agricultural Census in 2020 and the National Population and Housing Census in 2021) to manage

data collection channels and census enumerators and statistical interviewers (who will perform CATI interviews during censuses).