

Process innovations, integrated approach and development perspectives in the implementation of Data Collection (DC) for Istat agricultural surveys



New
Techniques and
Technologies for
Statistics

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Introduction

Introduction in Istat of a Centralized Data Collection approach

- ✓ Introduction in ISTAT (Italian National Statistical Institute) of a Centralized Data Collection (CDC) allowed reduction of Total Survey Errors (TSE) both in terms of observation and nonobservation errors
- ✓ Response rates and timeliness concerned nonobservation errors while the introduction of innovative DC tools, the application of a multimode approach and the standardization and harmonization of procedures concerned observation error
- ✓ Introduction of CDC allowed also to enrich the offer of statistical information produced, reducing costs and resources employed

Main trends underlying the centralization needs

- ✓ Decreasing number of human resources assigned to the National Statistical Institutes
- ✓ Increasing degree of training and specialization of available human resources
- ✓ Development of communication and information technologies
- ✓ Computerization of the main survey units where the data are collected
- ✓ Need of greater consistency between the statistical indicators produced, notably at the level of National accounting indicators

Characteristics of Centralised DC

- ✓ Separation between support services and thematic services that are managed by different organizational structures
- ✓ Specialization of DC services
 - ✓ Redesign of many of the management procedures adopted
 - ✓ Increase process efficiency, reducing redundant overlaps and lack of integration between the processes
 - ✓ Standardization and harmonization of DC procedures
 - ✓ Design of generalised DC management systems (data acquisition, survey management, communication, statistical burden control, users assistance and support)

1. Innovations in data collection

ISTAT from the year 2018 started to use the mixed-mode technique in agricultural surveys

- ✓ Sequentially and without overlap between the two techniques, use of the CAWI / CATI technique
- ✓ At the same time industrial companies (milk processing and processing of white meat and red meat) migrate into the Business Statistical Portal and adopt the single CAWI technique, as they are used to employ this tool
- ✓ Initially the survey is carried out using the CAWI technique, for a data collection period of two weeks
- ✓ The possibility for the respondent to choose the preferred DC mode and the adaptation of the mode to the characteristics of the respondent is targeted to reduce observation errors

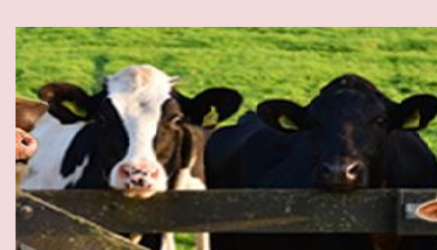
Innovations in data collection systems for agricultural statistics

- ✓ Specific projects of analysis, research and experimentation, notably in the field of implementation of DC from direct surveys
- ✓ Adoption of mixed technique data collection strategies with combined use of the CAWI technique also for surveys on the structural and short-term characteristics of the farms and companies operating in the agricultural sector carried out traditionally by means of CATI or by CAPI technique
- ✓ Technological development and evolution of the web, changed the rules and encouraged the development of numerous (and substantial) changes to the techniques of data collection, imposing the problem of the optimal planning of this type of strategies
- ✓ Planning of the next Agriculture Census 2020, induced to invest on mixed strategies. need to identify an optimal trade-off between cost constraints and quality requirements



ISTAT Business Statistical Portal

- ✓ Web system oriented to manage bi-directional communication with companies involved in the statistical surveys
- ✓ The Portal includes user-oriented services to streamline statistical obligations
 - ✓ Integrated system to manage register variations
 - ✓ State of activity
 - ✓ Registry changes
 - ✓ Insolvency proceedings
 - ✓ Contact information for each survey (names, email, telephone)
 - ✓ Delegation facilities
 - ✓ Up-to-date state of obligations fulfillment
 - ✓ News about surveys
- ✓ Centralised contact center services
 - ✓ Inbound: assistance and support
 - ✓ Outbound: reminders



2. Results

Results of monthly surveys on industrial companies during the first month of only CAWI application (Response rates)

- ✓ Red meat: 59,5%
- ✓ White meat: 55,6%
- ✓ Milk and dairy products : 72,0%

Significant increases expected in the coming months

Application to current Agriculture surveys

Survey	CAWI* Resp. Rates (%)	CATI Resp. Rates (%)
■ Sowing intentions	7,4	78,2
■ Phytosanitary		
■ Corn	12,3	52,7
■ Potato	8,6	43,8
■ Livestock consistency	13,1	44,0

* No reminders applied just spontaneous respondents

User preferences: who would have chosen another technique

- ✓ Cati 3,6 %
- ✓ Cawi 44,3 %
- ✓ Capi 19,3 %

Source: Division for design of data collection tools



3. Conclusions

- ✓ Introduction of a CDC approach and of a mixed-mode technique increased process efficiency, reducing redundant overlaps and lack of integration between the processes, fostering standardization and harmonization of DC procedures
- ✓ Application of CDC contributed to Total Survey Error reduction notably in terms of observation and nonobservation errors
- ✓ CAWI technique turned out particularly suitable for industrial processing companies involved in the agricultural sector and in the territories characterized by medium-high average company size. Its effectiveness can be increased through targeted and personalized reminders campaigns
- ✓ CATI technique resulted effective also for small and medium-sized farms, still not fully computerized, and in its "inbound" version
- ✓ CAPI technique is particularly effective for farms that have low quality contact information