Centralised data collection: process innovations and main results in business surveys

**Keywords:** Data Collection, Web Data Collection, Business surveys, Efficiency of Data Collection, Response rates.

# Introduction

Several National Statistical Institute in the last years started a reorganization process whose main objective was to enrich the supply and the quality of the information produced, improving the effectiveness and efficiency of the statistical processes. The deriving new organizational set-up was characterized by the centralisation of all the support services, that were clearly separated from statistical production. The introduction of a structure characterized by production sectors on the one hand and service-providing sectors on the other, pushed towards the "transversalization" and specialization of many services that were managed in a specialized manner. The result obtained consisted of a strong standardization and harmonization of all these services and in particular of the ones involved in data collection. The introduction of a specialist data collection (DC), led to the review of the organizational structure of data collection processes and the redesign of many of the management procedures adopted. Process innovations introduced in structural and short-term business surveys are mainly based, on one hand, on the implementation of infrastructural solutions, as the single access point to data acquisition systems - the “Business statistical portal” - and the centralized Contact Center for inbound and outbound services; both solutions are managed through a detailed calendar of each data collection activity. On the other hand, process innovations are based on the standardization and generalization of each phase of the data collection process and on the specialization of personnel devoted to specific transversal activities. Main results were the significant increase in medium response rates and the reduction of the data collection periods. A detailed description of the innovations and standardization adopted and of the consequent results will be provided.

# Methods

## Innovative tools and services supporting DC activities

The implementation of a Business statistical Portal in the context of the economic surveys involves a new approach in their management that turned from “survey-centered” to “enterprise-centered”. While in the past in the management of data collection the prevailing approach placed the needs of statistical surveys in the foreground with the introduction of the Portal the needs of the companies involved in the investigations pass in the foreground. Additionally the Portal introduced for the first time an integrated management of some phases of the DC process. Referring to functionalities available, the Portal is a tool for optimizing the bi-directional communication between the National Statistical Institute on one side and the companies involved in the statistical surveys on the other side. The section of the Portal dedicated to this function is named Front-Office.

The main features of the section concern the following aspects:

* Single sign-on and single point of access, as to say the possibility for the company to access all the questionnaires to be completed and to all the functions of the Portal with unique credentials.
* Integrated Register changes management, changes in status and structure communicated by companies are immediately validated by the Register managers and shared with all the structures that carry out the surveys and those that produce samples and survey lists.
* The delegation system, that offers the possibility to manage in a flexible way the assignment of the questionnaires to the appropriate contacts within each company, to involve several offices in completing the same questionnaire, to delegate outside the compilation (e.g accountant), to centralize the requirements at a single office or at a holding company of a group of companies.
* News management, a specific section dedicated to news regarding the conduction of the surveys (start, closure, reminders, extraordinary events, extensions, technical problems).
* The state of obligations, complete and updated framework of all the statistical activities required to each company and of the state of fulfillment of each survey, presentation of additional information of interest to the user (survey status, date of closure of the DC, presence of responding units other than enterprise, etc.)
* The personalized statistical information return, a specific section dedicated to the return of personalized statistical information to respondents (main economic indicators and foreign trade statistics). The statistics of foreign trade are used to carry out a “benchmarking” of companies in the markets in which they operate, relating them to the main competitors.

A second section of the Portal (back-office) includes a set of functions to support the management of the survey, with particular regard to help-desk activities, survey administration, monitoring of the data collection process, management of outcomes, reports of variation in register data, data validation, monitoring of linked users, management of the DB of internal and external contacts.

The new organization also implies more specialization of managing the contacts with respondents. In particular, the outsourcing of the activity is entrusted to a specialized company in Contact Center (CC) services. The aim is pursuing progressive centralization of the support and assistance services addressed to the units involved in the surveys (inbound) and of telephone alert and reminders addressed to non-respondent units (outbound). The unique and coordinated management of the service guarantees strong standardization not only within each specific thematic sector but also among sectors, due to the increased transfer of the best practices from one sector to the other. Main objective of both services is to facilitate the enterprises approach to the questionnaire, reducing the respondent burden, and to remind statistical duties in order to maintain or increase the overall response rate. In more details, the inbound service provide assistance and support to responding units in the access and navigation of the Business statistical Portal, as well as on the general rules that define the statistical activity and expose the legal obligations for respondents. Finally, it provides answers to the most recurring questions about major instances concerning the survey's content. The assistance is guaranteed by synchronous (free number) and asynchronous channels (dedicated email address). For requests that are not solvable by FAQ, the CC use the “shared agenda”, a tool that, presents features useful for managing and sharing the received instances.

The outbound service is realized contacting by telephone the referents stored in the Business statistical Portal and indicated by the responsible of the production survey unit.

## Innovations introduced in the field of DC implementation

Data collection centralisation requires a complete revision of procedures adopted in order to standardise and generalise all the activities run. The main innovative approaches concern Harmonized survey lists management; Standardization of the contact modalities; Strict schedulation for formal and informal communications; Procedures and tools for monitoring the data collection process; Data capturing and security systems; Harmonised penalties management procedure.

# Results

The introduction of centralized DC experienced a clearly increasing trend in response rates (rr) both in structural and short-term economic surveys. The increase of the rr was normally associated to a significant reduction of the data collection period. Particularly for main structural[[1]](#footnote-1) economic surveys, the results show that generally speaking the rr increased of about 11 percentage points (pp), whereas for short-term[[2]](#footnote-2) surveys of about 20 pp. The comparisons refer to surveys on enterprises carried out before and after the centralized Data Collection (CDC) management was implemented. For structural surveys, the comparison was carried out between last concluded survey (2017-2018) and the last run before CDC introduction (2015-2016); for the short-term ones, the comparison was carried out considering 1-st semester2016 and 1-st semester 2018.

The following Figure 1 shows that the average response rates for single surveys carried out before and after CDC implementation. Among structural surveys, the major effect was recorded on those surveys with historical lower rr values, as for Inwards Fats, with an increase of more than 25 percentage points, and CIS, Prodcom and SME-SBS, where the increase was of more than 10 pp. For surveys with higher original rr, as Outward Fats, SBS and ICT, the increase was of around 10 pp or less. The situation is quite different for R&D and Updating ASIA (BR) surveys, that also before CDC had already high rr values, thus they were not so positively affected by CDC implementation.

Among short-term surveys, the rr shows a positive average variation of 19.4, particularly relevant are the increases of 28.2 percentage points (pp) registered for the Monthly survey on retail sales (RSI) and of 21.5 for the Monthly survey on industrial production (IPI). The Monthly survey on producer prices for industrial products sold on the domestic market (PPID) and the Quarterly survey on turnover in the services (TSI) also show significant increases of 14.5 pp and 19.6 pp respectively.

Figure 1 - Structural and short-term surveys: average response rates before and after CDC

# Conclusions

The introduction of the new organizational model, which provided a specialized approach to the management of cross-cutting services, has produced important results in terms of increasing response rates and significant reductions in the data collection periods, product and process innovations. The results are independent of the platforms used for web data capturing and are extended to all types of surveys. Among the factors that most explain these increases has to be considered the standardization of data collection processes that led to significant increases in efficiency. The main challenges for the future concern the methods and the solutions to be adopted to consolidate the transition process towards the new model: i) development of integrated and generalized platforms for data capturing from units belonging to different sectors; ii) design and implementation of a unique generalized system of integrated management of surveys; iii) greater integration between inbound and outbound Contact Center services; iv) development of acquisition Portals to increase the efficiency of data collection processes from survey units belonging to different sectors; v) identify solutions to be applied at an organizational level in order to reduce the processes fragmentation, while respecting the principle of specialization and standardization of the activities involved.

# References

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1. Community innovation survey (CIS), Statistics by product (Prodcom), Small and medium enterprise survey -SME (including professional and artistic activities) (SBS), Survey on information and communication technology in enterprises (ICT), Survey on enterprise accounting system (SBS), Survey on Research and Development in enterprises (R&D), Statistical Business Register (SBR) update and local units (LUs) Survey, Survey on the activities of foreign controlled enterprises resident in Italy (Inward Fats), Survey on abroad foreign affiliates activities controlled by national (Outward Fats). [↑](#footnote-ref-1)
2. Monthly survey on retail sales (RSI), Monthly survey on industrial production (IPI), Monthly survey on producer prices for industrial products sold on the domestic market (PPID), Quarterly survey on turnover in the services (TSI), Monthly survey on sales and orders (MSI) [↑](#footnote-ref-2)