Centralisation of Data Collection: a pillar of Istat’s Modernisation

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Outline

- Background
- Modernisation drivers
- Objectives and instruments of the Modernisation Programme
- Focus on the main instruments
- Centralised data collection, its main phases and the System of registers
- Concluding remarks
Background

- In the last decade, official statistics has undergone a **dramatic shift**, both in the **production model** and in its **output**

- The **traditional chain**, based on the **vertical integration of different survey-specific tasks** carried out to collect, process, analyse and disseminate statistical data, **has become outdated**

- Since the **second half of 2014 Istat** has implemented its internal **Modernisation Programme**, in accordance with both some actions supported by **UNECE - High-level Group on the Modernisation of Official Statistics** and the **European Statistical System** commitment to **Vision 2020**

- Istat’s **Modernisation Programme** was officially approved by the **Governing Board on January 28th, 2016**
External drivers for Modernisation

- Changes in the **demand** for statistical information
- Wealth of information, including **unstructured information** (innovative sources, e.g. Big Data)
- Drawbacks of **traditional data collection systems** (high costs, response burden, lower response rates)
- Presence of **competitors**
- Availability of **new** methodological and technological tools
- International **best practices**
Internal drivers for Modernisation

- Organisational silos:
  - local or vertical *know-hows* which do not promote reuse
  - duplication and lack of *consistency of solutions*
  - limited *interoperability*
  - limited capacity to exploit *methodological* and *technological opportunities*
  - research and innovation at departmental rather than *corporate* level

- Organisational segmentation

- Weak governance system:
  - difficult access to already available *general services*
  - huge efforts to obtain services at the local level, generating *redundancies and inefficiencies*

From the previous/current situation...
...to the evolving situation

Objectives of the Modernisation Programme

Main Objectives

1. To enrich the supply and quality of statistical information and services
2. To develop a specific policy on Corporate Social Responsibility

Intermediate Objectives

- To encourage the development and exploitation of methodological, technological, and organisational innovation
- To increase and reorient the skills of human resources
- To reduce respondent burdens
- To further improve the efficiency and quality of production processes, while taking into account budget constraints
Main instruments of the Modernisation Programme

- **The Foundations: The *Business Architecture Model***
  - It is an integrated model representing processes and activities, which constitutes a common framework necessary for undertaking consistent, shared paths of innovation;
  - It covers both statistical activities and strategic organisational tasks and capabilities;
  - It is composed by a generic Activity Model, a BA process flow, a set of Principles and common and shared Infrastructures.

- **Three main Pillars:**
  - Sound and structured Governance
  - Design of production processes through the System of Registers
  - Centralised Corporate Support Services (separate from production)

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Additional instruments

- Design and development of an integrated system for managing human resource skills and expertise
- Redesign of the Institute’s organisation, in order to reduce internal fragmentation
- Systematisation of the specific actions on Corporate Social Responsibility
- Accommodation of Istat’s employees in a single building
The Business Architecture Process Flow

- Each BA activity leads to Modernisation and Standardisation, both from an organisational and a production-related point of view.

- Each BA activity naturally points to standards which should be used to facilitate the process of transition to Modernisation.

- Analyses of each BA activity are strongly recommended and should represent the basis to identify standards (existing ones and areas where new standards need to be developed).

The Business Architecture Principles

- **Decision principles** to guide the activities of strategic planning (Portfolio and Project Management)

- **Design principles** to guide the design of production processes

- Particularly important aspects:
  - **Output** and **metadata** drive the entire process that is defined starting from the required product and goes backwards;
  - **Reuse** of data, metadata, methods, tools and applications. Interoperability and *Service Oriented Architecture* – SOA;
  - **Industrialisation of statistical processes** ensures independence between design and implementation.

The System of Registers

- Notable advantage in terms of reduced costs and response burden, while ensuring quality, timeliness and completeness
- Large potential because different registers can be linked together on the basis of clearly defined keys
- Organised governance mechanism to clearly define responsible individuals
- Base registers contain the identifier of the statistical unit
- Satellite registers contain thematic variables derived from administrative sources or surveys

Centralised Corporate Support Services

- Consolidation of the Institute’s **cross-cutting Support Services** (technical, scientific and administrative - methodology, information technology, **data collection** and dissemination, human resources, legal affairs, asset management, accounting) to enhance:
  - effectiveness/quality, as a result of a **standardisation of processes and solutions**;
  - efficiency, as an effect of **overcoming stovepipes in conducting processes**, so as to facilitate **reuse**
  - productivity;
  - the integrated **System of Statistical Registers** enriched with single, controlled, and standardised information;
  - innovative activities with the **saving of resources** obtained.

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The new organisational structure


- Coordinating and managing demand and supply needs
A dedicated Directorate

- Establishing of Data Collection tools
- Organisation of Data Collection
- Carrying out Data Collection (surveys)
- Administrative data collection and technical integration of input data

Establishing of Data Collection tools

- Questionnaire design and management of metadata and classifications
- Survey technique definition and data collection networks
- Data collection tools
- Training of interviewers
- Pilot surveys and tests
- Integrating information from different surveys and reducing redundancies
- Defining the architecture of multi-technique data collection systems
- Statistical analysis of the effects of selected data collection techniques
Organisation of Data Collection

- Budget and procurement of data collection supplies
- Organisation of censuses
- Contact with respondents and sanctions
- Operational planning and coordination of external bodies involved in data collection
- Quality controls (paper questionnaires and forms; outsourced data registration; etc.)
Carrying out Data Collection (surveys)

- Managing the operative aspects of data collection (in-house and outsourced processes)
  - Censuses
  - Household sample surveys
  - Surveys on Institutions and Environment
  - Business surveys
  - Short-term surveys
  - Surveys on agriculture, transports, tourism, culture, etc.

- Using a generic Data Collection Management System

- Contacts with respondents and other supporting bodies

- Monitoring the data collection phase

Istat repository of methods and tools (I)

Istat repository of methods and tools (II)

Administrative Data Collection and technical integration of input data

- **A centralised point** receiving administrative data:
  - checking each delivery
  - transforming data into the format used within Istat
  - removing text and official identity numbers/information so as to protect privacy
  - first data editing (finding and correcting erroneous values)
  - managing the register of activities

Concluding remarks

Stay on track with the Modernisation Programme!
A smart way to grow, even for a 90 year old Institute!

- Modernisation is an ineluctable process: it needs a holistic view, a strong internal consensus, a change management approach, a sound methodology to facilitate the transition steps

- It is necessary to continue ensuring high data quality together with integrity and suitability of statistical methods, while investing in human resources

- A good staff training is one of the most relevant factors and should build human resources and strategy managers together

- A cultural change is also integral

- Exchanging synergies is a core aspect

Importing best practices

- From Statistics Netherlands – CBS:
  - the first version of the **Business Architecture**
  - the **Innovation Lab**
  - TV studio and **CBS-Live**
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