Data Governance: 
an orchestra of people, processes and technology¹

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¹ This presentation was prepared for the meeting. The views expressed are those of the author and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.
Data Governance: an orchestra of people, processes and technology

ISI / IFC High Level Meeting on Data Governance

Tunis, 22 November 2019

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THE NEW DATA LANDSCAPE OF THE POST-CRISIS HAS PERMEATED CENTRAL BANKS IN MANY WAYS

- Information is a major asset
- NCBs deal with massive amounts of data and a large share of these data is managed by Statistics Departments
- Projects involving microdata and big data are more frequent
- Integrated reporting schemes addressing multiple purposes within the central bank are already in place and will continue to be developed
- New data architectures are being implemented to address the need to:
  - **Combine data** from multiple datasets
  - Promote **data-sharing** throughout the institution
  - Allow the **regular** data exploration and also **experimental** analysis
  - Increase the **usefulness** of the data available not only to the internal users but also, e.g., to the research community
- However, data integration is still a challenge:

  Data integration requires more than a technical evolution: there is the need for a **cultural change** in the organization which has to be supported by a strong **governance model**.
In 2017 Banco de Portugal launched the INTEGRATED DATA MANAGEMENT (IDM) programme

The IDM is a major transformational initiative of the Strategic Plan 2017-2020.

The goal of the IDM is to strongly contribute to a better use of the available data in the Bank by means of rationalisation of the processes associated with its collection and processing and to promote its effective sharing throughout the whole organisation.

The IDM is jointly coordinated by 2 departments:
SUCCESS FACTORS FOR THE IMPLEMENTATION OF THE IDM

- Strong sponsorship from the Board
- Dedicated teams (both in Statistics and IT)
- All departments must recognize themselves in the programme and should be involved in the decisions
- The level of understanding of the programme by the various departments is not homogeneous. Adequate expectations management is vital
- Pursuing the global vision supported by iterative objectives
- Setting an enterprise-wide DATA GOVERNANCE

THE MAJOR CHANGE INDUCED BY THE IDM IS NOT TECHNOLOGICAL BUT CULTURAL/ORGANISATIONAL
Centralized coordination with decentralized roles and responsibilities across the organisation

### The Governance Model

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<th><strong>THE GOVERNANCE MODEL</strong></th>
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<td>Centralized coordination with decentralized roles and responsibilities across the organisation</td>
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#### Decision Making [Board]

#### Strategic Coordination [Information and Technology Management Committee]

#### Operational Coordination

**Data Management [Statistics Department]**

- Data stewards
- Data experts
- Data owners
- Data managers

**Information Technologies Management [IT Department]**

- System owners
- Data custodians (IT Dep.)

### Departments

- **Data providers**
- **Data users**

### Information Security

- **Risk**
- **Data protection**
- **Audit**
Who is who in the Governance Model

**SYSTEM OWNER**

Department responsible for launching the development of an information system and typically the main user of that system.

**DATA OWNER**

Departments responsible for a set of information within the corporate Data Warehouse.

**DATA STEWARD**

Employees appointed by the Directors of each department to be the prime point of contact in their business area, promoting the implementation of the IDM Programme.

**DATA EXPERTS**

Business specialists responsible for managing the content of their area of expertise - whether business data, reference data or catalogue information.

Data management is a shared responsibility implying individual (business areas) commitment in contributing to the overall data quality.
THE LOGICAL DATA ARCHITECTURE

DATA SOURCES

INTEGRATION & STORAGE

DATA LAKE

DATA WAREHOUSE

EXPLORATION

DATA SCIENCE

CORPORATE

SECURITY, ADMINISTRATION AND MONITORING

DATA CATALOGUE
Central banks today have incredible amounts of data to support their different missions. DG ensures these data are trusted, well-documented, and easy to find and access within the whole organization, and that it is kept secure, compliant, and confidential – **DG is not optional!**

- Effective DG encompasses the right levels of **policies** and **procedures**, **structures**, and **roles** and **responsibilities**

- Besides clear decision making, a successful DG strategy implies a solid **partnership between business and technology** and combining the use of **top-down and bottom-up approaches**

- DG policies will lose their value if they’re not followed in day-to-day operations across the organization. **Data stewardship** (in all business areas) is now looked as a critical function for the success of the DG

- Data governance brings the **human dimension** into a highly automated, data-driven world