

What is DPM?

The Data Point Modelling (DPM) is a data centric method (defined by ISO 5116) for organising business terms and concepts in a hierarchical order. It is used to present data in various reporting scenarios which derive from the underlying legal requirements in a business-friendly and non-technical manner. To enable this, it employs multidimensional and semantical perspective on data to highlight the relationships between business terms, improve understanding data, and enhance analytical capabilities.

The DPM method consists of two core artefacts:

- DPM Dictionary, where business terms (structured into hierarchies) are listed in meaningful semantical domains with their definitions and unique technical codes. These terms are often placed in the perspective of certain dimensions to provide various semantical contexts.
- DPM Annotated Templates, where a combination of coded terms and dimensions create a tabular representation of certain information requirements (usually in the form of business templates) and provide unique description of a data point for a particular data field.

The DPM method provides a precise, complete, and unambiguous definition of terms and concepts that enables the definition of logical structures of information requirements (such as messages, tables, data sets or cubes) based on underlying business dictionaries that can be understood by both business and technical users. At the same time, it does not aim to replace these artefacts or their technical implementations.

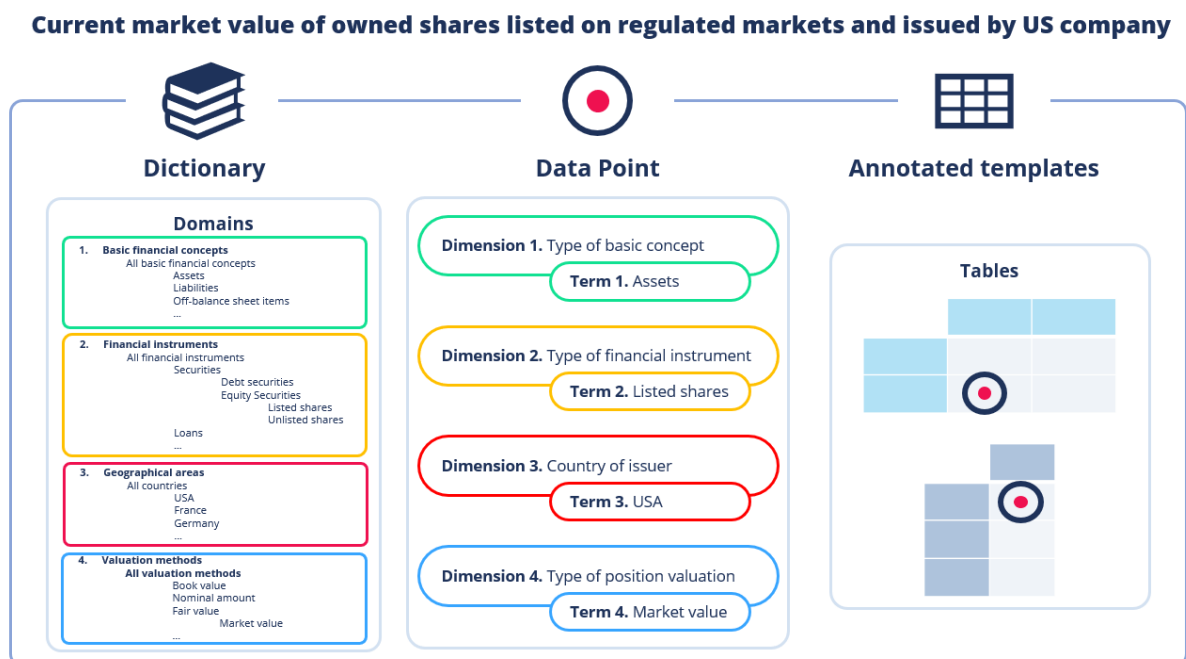


Figure 1: Decomposition of a business term (data point) with DPM method

What is the purpose of DPM?

The DPM approach supports the process of building a common understanding of business concepts and information requirements among various stakeholders. In many cases regulations, acts, or guidelines generally refer to the same notions. However, their detailed business definitions are not always aligned. This may cause confusion among market participants and affect the quality of the data exchanged due to different interpretations of such requirements.

The variety of technical formats used for reporting obligations often provides standard-specific ways to describe data, which may further increase the discrepancies between understanding the meaning of these obligations. A unique description of a data point, through clearly defined terms from the DPM dictionary allows business experts to reach consensus on data characteristics and accurately communicate these to their respective IT teams, avoiding misinterpretations.

The DPM method also enables multidimensional description of data and its characteristics. This is particularly important as it allows for multiple reuse of concept definitions for specific reporting scenarios, viewing information requirements from different perspectives, and easy filtering of data during an analysis of datasets.

How can the DPM be used?

Since its inception, the DPM method has been widely used by financial regulators around the world to increase the transparency of information exchanged and to facilitate the reporting processes. In addition, many specific use cases have emerged where the DPM has been used in a more analytical way. The main areas covered by the standard are outlined below, together with a selection of some successful European projects confirming the validity of applying the DPM method in a given domain.

Presentation of clear reporting requirements

The DPM method is mainly used to facilitate understanding of complex reporting requirements, where each data point is uniquely described by a set of terms and definitions to understand and navigate the extensive reporting framework faced by reporting entities and regulators worldwide.

Among current regulators, the European Banking Authority (EBA) was one of the first to implement the DPM approach into its ecosystem. Its data model is constantly evolving to incorporate new reporting requirements under the Basel Accords. Subsequently, EBA was followed by the European Insurance and Occupational Pensions Authority (EIOPA), another example of an EU supervisory authority that moved to DPM-based models to describe the requirements under the Solvency II directive.

Extensibility of existing business dictionaries and sharing meta-data

The DPM method can assist in the joint implementation of certain standards by regulators, allowing an authority to reuse existing DPM models, adapt them where necessary or extend them to meet its specific needs.

The Bank of England (BoE) and the Central Bank of Ireland (CBI) have adopted the approach and have started to extend the models by EBA and EIOPA models to reflect their local requirements. Another example is the Single Resolution Board (SRB), where resolution reporting is developed in collaboration with EBA experts and is an integral part of the DPM package published by the European Banking Authority.

Data relationships, overlap and gap analysis

The representation of various reporting requirements by the DPM method allows the creation of a unified data environment in which the relationships between data points can be traced through the links created by assigning them defined, unambiguous concepts from the DPM Dictionary used in their modelling.

The EU Commission's Directorate-General for Financial Stability (DG FISMA) decided to use the DPM method to describe reporting requirements applicable in the European financial sector to discover any potential reporting overlaps, gaps and inconsistencies. For this purpose, a single Data Point Model was developed to cover and align the information needs stemming from some EU directives, e.g., EMIR, MIFIR or SFTR transactional reporting requirements under the remit of the European Securities and Markets Authority are being exchanged through ISO20022 messages or EBA banking reporting requirements typically using the XBRL standard.

Data analysis and integration

The logic behind the DPM approach can track the location of a term in the database to provide business users with atomic and detailed links between data via the multidimensional data categorisation provided by DPM Dictionaries. This design aims to streamline both business analysis and analytics. What is more, it provides the ability to create aggregated data points from granular items through a hierarchy.

The comprehensive structured metadata that DPM provides is already deployed by a number of institutions, such as SRB or EBA, since they strive for high data quality. These authorities aim to implement metadata-driven data integration processes and multidimensional analyses covering multiple datasets, where the execution time is significantly reduced compared to standard data analysis systems that do not leverage such a solution.

Useful links:

<https://eurofiling.info/portal/data-point-model/>

https://ec.europa.eu/info/sites/info/files/170925-m4fds-methodology_en.pdf

<https://eba.europa.eu/regulation-and-policy/supervisory-reporting/data-point-model-dpm->

https://www.eiopa.europa.eu/tools-and-data/supervisory-reporting-dpm-and-xbrl_en