



Banking and asset management players are increasingly considering electronic data management to be a strategic activity requiring operational efficiency

Financial services

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Data management systems are an essential component of the business infrastructure of every banking and wealth management firm. Effective master and reference data management is crucial for operational efficiency in the entire value chain of companies and their service providers.



Although reference data is descriptive in nature (e.g. instrument/product, client, counterparty, book, corporate actions, calendars, etc.), it is shared and re-used across trades and transactions. It is often referred to as 'static data', but increasingly includes real-time data (e.g. external price and market data)⁶. In the financial sector, market data represents the largest share of data management-related costs, such as the purchase of market data from third party data providers and the corresponding cost of human resources required to manage and control the data flow and databases.

Almost all functional activities, from portfolio management in the front office to settlement and reporting in the back office, use data management systems as their main source of information to perform their daily activities. This is also true for other business-related activities such as CRM, risk management, compliance, investment restrictions control, internal and regulatory reporting, sales, investment restrictions, etc.

Scope of securities reference data



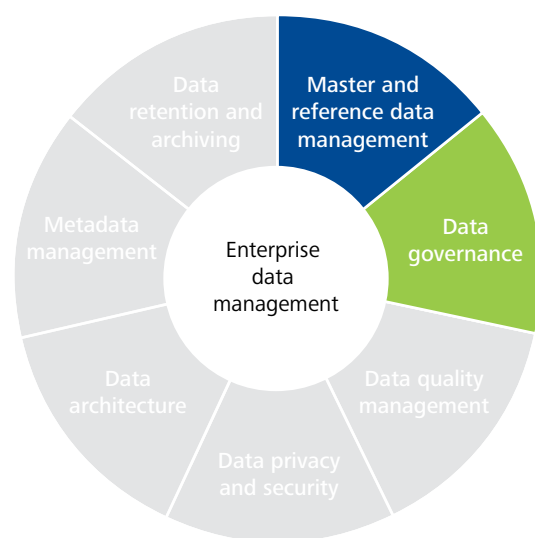
Effective data management supports



⁶ White paper: 'Growth, risk and compliance: the case for a strategic approach to managing reference data', Deloitte and Swift, 2012

To ensure a common vision among business owners, data management should be addressed at an enterprise level and not at a functional level. In order to implement this, a strategic approach should be designed, including cross-functional sponsorship, clear governance structures and budgeting across divisions.

To meet client and market expectations of data management (i.e. customisation and data reporting, quality of data and transparency, independence, quick data production through automated processes, etc.) and respond to the increasing volume of data, financial companies could design their strategic approach using the two main factors highlighted below:



Master and reference data management models

Co-existence of three models in data management—focus on the securities masterfile

Financial institutions choose the data management model that best fits their requirements according to the availability, consistency, timeliness and accuracy of data. It is possible to operate different models in parallel, depending on the category of data. The database model

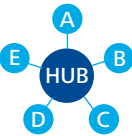


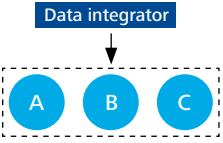
chosen for client or product data is not necessarily the same as the database for reference and market securities data. Whereas client data is often stored locally, financial services companies typically organise their securities master file according to one of three models:

- **Centralisation** of the securities master file with one centralised team in charge of management and monitoring of the securities master file at the group level
- **Centralisation with competency centres** with one centralised team in charge of creating and controlling most securities, and dedicated competency centres close to business teams responsible for creating or controlling securities requiring specific expertise. The aim is to leverage existing resources to provide the expertise required and allocate responsibilities across the institution as needed
- **Complete decentralisation** where there is no securities master file shared at the group level, but each individual entity has its own securities master file, and may have its own systems and processes. This model still exists for historical reasons, such as the merger or non-integration of systems. Generally, the volume of the securities master file does not exceed 50,000 active securities (consolidated at group level). With an increasing volume of securities and reference data fields to manage, financial institutions could rethink their data management model and governance to improve data quality and process efficiency, and reduce costs

The centralisation of the securities master file is the most representative model in the financial market in Luxembourg. This model enables companies to manage a large volume of securities and reference data fields (from 50,000 to 250,000 active securities) in an efficient way, avoiding duplication of tasks within the group (such as data feed, data searches, openings and controls) and minimising the cost of market data external providers.

However, the centralisation of the securities master file comes at a cost, because a system has to be selected, acquired and implemented. The business case has to be evaluated carefully. By centralising securities management, the reference data team increases both its standing and its bargaining power within the group. In general, centralisation of data management is coupled with automation of most of the underlying processes, including data workflow with external providers.

Some financial institutions have started to establish competency centres, which focus on conducting controls on specific securities or reference data fields. This, in turn, enables companies to significantly improve the quality of reference data by assigning control responsibilities where the expertise lies within the company. In the long run, the next step would be to allow competency centres to focus on both inputs and controls. Delegating some responsibilities to competency centres implies a number of advantages such as quality improvement, but there are some disadvantages, such as the loss of reference data controls and processes.

Models	Description and stakeholders
<p>1. Centralisation (HUB)</p> 	<ul style="list-style-type: none"> • One team responsible for the management and monitoring of the securities profile • Centralisation of opening and control tasks • Sharing of information with all group entities • One system • Discount rate on purchase prices of data • Economies of scale • Standardisation of the processes and associated system
<p>2. Competency centre</p> 	<ul style="list-style-type: none"> • One Centralised team responsible for opening and control for most securities • representatives in the local entities and in the business teams for opening and control of specific securities – Expertise located close to business interests • Distribution of data to all group entities • Leverage effect and synergies at group level • Strong value-added for the client of the various entities
<p>3. Complete decentralisation</p> 	<ul style="list-style-type: none"> • Each local entity has its own securities Master File and a dedicated team • No synergies • Multiplication of the costs • Weak power of negotiation with the main providers • Separate and sometimes different systems • Creation of a security duplicated through the different entities • Potential lack of consistency in the static information and price for a given security between the different entities (client impact)
<p>Data flow outsourcing</p> 	<ul style="list-style-type: none"> • SLAs to be put in place with counterparties • Declining balance for the purchase prices of data • High quality of information (scrubbing done by external data provider) • Internal controls targeted to check the quality of received data • Distribution of the data to all group entities • Solution lacks flexibility

Outsourcing of data flow: an opportunity for process and control optimisation

These three models could be coupled with the outsourcing of data flow to a data integrator (a company specialised in the integration of data or another financial institution that provides this service). By outsourcing all or part of the data flow, the financial institution can focus on controls rather than on data collection and input, and is able to limit the number of internal resources required to manage the securities master file. Again, outsourcing of data flows may be possible for data relating to the securities, but not for client or counterparty data.

Currently, players in Luxembourg that have a limited volume of reference data (from 5,000 to 30,000 active securities) are considering outsourcing their current process to an external provider. Apart from a solid business case, a major aspect in the decision to outsource data management is the issue of responsibility for the data quality. It is common practice that parts of data management are outsourced to third party providers without passing on the responsibility to the provider.

Data governance

Data governance is a critical function impacting all business activities. Developing a strong data governance policy can enable companies to achieve efficient data quality management.

Data governance requires a dedicated system based on reference data 'ownership' in order to give a sense of responsibility to business lines and IT professionals. It must cover the entire life cycle from reference data sources to reporting.

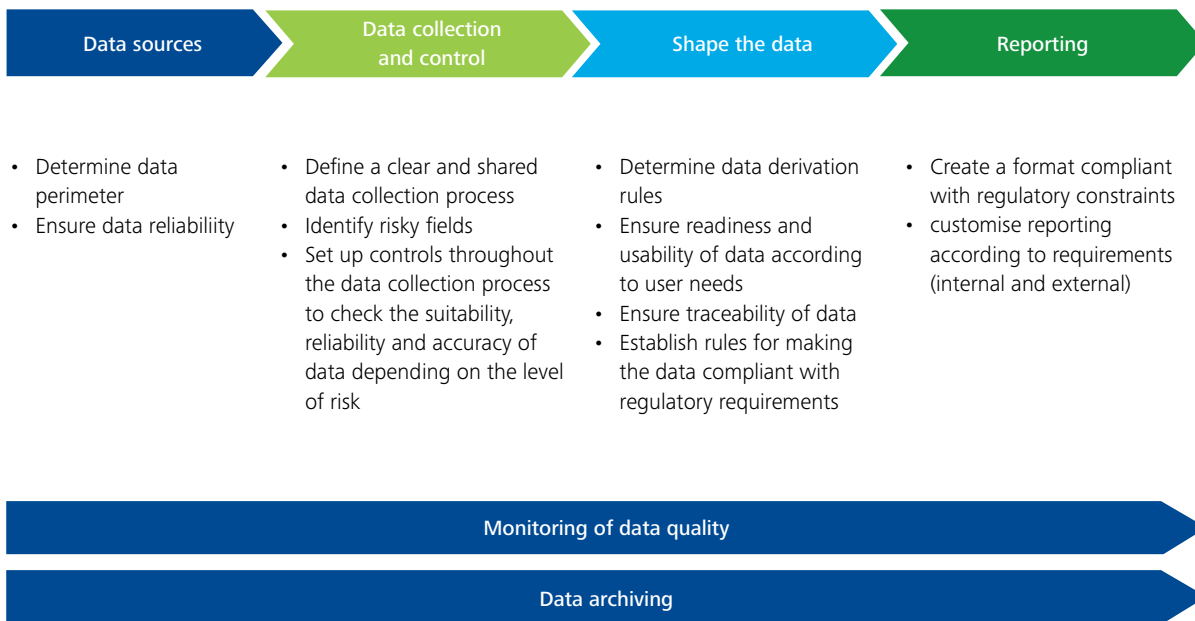
The Reference Data team should be able to answer the following questions:

- Who is using which data?
- Is all data included in my current securities master file being effectively used by the business?
- What are the key and more 'risky' fields?
- Should I accept any new requests from the business, or can we enter into discussions, propose alternatives, reject any requests?
- How should I monitor the quality of the data in my securities database?
- Can I become proactive and suggest new data and fields to the business, enabling the current quality of reports provided to customers to be improved?



Some financial institutions have started to establish competency centres, which focus on conducting controls on specific securities or reference data fields

Data governance should cover all the main stages of the data life cycle listed in the figure below.



Automation of processes strengthens the focus on controls

In line with the increasing volume of securities and reference data, the industry is progressively moving from manual processing towards automation. This shift is important as it allows for raising data quality and capacity to process ever-increasing volumes of transactions. By automating some processes, reference data management teams can shift their focus from reference data research and collection to controls, which has a direct impact on quality.

With respect to data controls, best market practice is to prioritise controls according to the importance level of the related reference data fields. Levels of importance are assigned to each reference data field, taking into account the potential impact of errors on clients, pricing and NAV, etc.

When opening a new security in the securities master file, most users prefer the 'full opening mode', which means that all reference data fields of the new security have to be filled in and validated before the opening of the new security can be completed. In general, the 'full opening mode' uses 50 to 150 reference data fields to describe one security. When there are more than 150 reference data fields, 'partial opening' can be used. In this case, only reference data fields considered as mandatory will be filled in and the others will be completed only when necessary. In the case of 'partial opening', the mandatory fields could change, depending on the profile of the user.

This amount could be significantly reduced by:

- Rationalising the number of reference data fields
- Challenging the needs of end-users
- Decreasing the number of data providers' workstations
- Optimising costs with data providers
- Centralising market data flows and business teams into a centre of excellence

Depending on the initial situation, the potential cost savings can range from between 10% and 20% of the total cost of the database.

Dedicated systems for data management allow for more flexibility and agility

For a securities master file with a large volume of securities (>50,000), we observe that financial institutions extract reference data management from their core banking system—or portfolio management system—to implement a dedicated system. This is aimed at giving the reference data management team more flexibility and taking advantage of mature market tools. When reference data management is serviced through a dedicated system, institutions are also able to deal with special requirements from internal and external clients, without having to consider specific constraints related to the core banking system.

Models of centralisation or competency centres are supported by one unique system shared by all the entities. By sharing systems, financial institutions further improve their operational excellence. Indeed, they benefit from cost sharing, synergies and economies of scale at the group level. They can also create a centralised and dedicated team for reference data management ('centre of excellence'), instead of integrating reference data management teams into other departments, which could decrease their visibility, bargaining power and flexibility. The decentralisation model is often a consequence of the various different operating systems implemented in each entity. As a result, entities cannot evolve at the same pace in terms of system developments, and are unable to share the costs or benefit from a centralised database, its securities and their related reference data fields.

Data governance requires a dedicated system based on reference data 'ownership' in order to give a sense of responsibility to business lines and IT professionals

The costs (i.e. cost of data, human resources and systems) related to the management of reference data is significant at the group level. On average, the associated cost means in terms of human resources and data purchase ranges between an estimated €80 and €120 per security. In the Luxembourg market, and on average, the total cost for a database of about 80,000 securities would be estimated at around €6.5 million and €8.8 million per year (including the market data purchase and human resources required to manage these).

Approach for operational excellence in data management

As stated previously, the quality of the reference data should be considered a key strategic aspect in operational excellence.

The first step in reaching operational excellence would be to diagnose your current situation in terms of data governance and management. This would enable you to identify potential room for improvement. According to your group priorities and resources, you will be able to prioritise and select projects to reach operational excellence.

By targeting operational excellence, you will implement an efficient model which can deliver the best value to your stakeholders, taking into account their requirements, such as customisation of data and reporting, data quality and transparency, independence from the IT function (for greater development flexibility) and rapid data production through automated processes.

Examples of operational excellence projects

Data models and governance

- Define the operating model for data management according to group strategy
- Define the data governance and escalation process to support the operating model
- Identify data owners in relation with their expertise and determine their responsibilities in terms of supporting operating model and data governance
- Define the value chain and processes that will support operating model and data governance

Data source	Processes	Systems
<ul style="list-style-type: none"> • Share data definition at all levels • Rationalise reference data fields according to end-users and clients needs/usage • Ensure traceability of data • Prioritise reference data fields according to their potential financial impact on business activities and on client • Reinforce controls on 'critical' reference data fields to improve data quality • Renegotiate contracts with data providers after rationalisation of data 	<ul style="list-style-type: none"> • Lean review and improve level of automation of processes such as: <ul style="list-style-type: none"> - Data collection - Data input - Data control - Reporting - Data archiving • Design processes to monitor controls throughout the data life cycle 	<ul style="list-style-type: none"> • Select a provider via RFP process and develop a dedicated system for data management to improve its flexibility