



ESG Data Integration: Important considerations for Investment and Wealth firms

by

Tarne Bevan - Independent Consultant

and

Adam Taylor - Data Governance Lead, Aviva Investors

July 2019

Foreward

The impetus for this paper has come from the belief that complete and successful embodiment of sustainability considerations within investment and wealth management firms can only occur if they become part of the day to day operations, practices and culture.

We hope that it provides some food for thought and assistance on the journey to evolving the industry's best practices.

A special thanks to Andrew Parry, former Head of Sustainable Investing at Hermes Investment Management and co-chair of the UNEP Positive Impact Initiative and, Luuk Jacobs, Partner at AlgoMe Consulting, for their insight and support on developing this paper.

Table of Contents

Foreward	2
Executive Summary	4
Why is governance and oversight of data important for ESG?.....	4
Reducing risks in the use or production of ESG data.....	5
Considerations for integrating ESG data	6
Values or Value?.....	6
Alternative and non-financial data.....	6
Standards and regulations.....	6
Integrating ESG data into a data governance framework	7
ESG data governance – some practical examples	7
Corporate Governance.....	8
Internal Audit.....	9
Fund Board and Trustee Governance.....	9
Fund and Trust documentation & IMAs.....	9
Investment Guidelines.....	10
Investment Management.....	10
Investment Risk Oversight.....	10
Performance and Reporting	10
Marketing and Request for Proposal (RFP) Content.....	11
What does a good data governance framework look like?	11
Organisational model	12
Data Model	13
Policy, Procedures and Controls	14
Bibliography	15

Executive Summary

As an industry we are now promoting ESG data as a meaningful input to generating financial returns for our investors and, by default, asking them to also rely on that data in our reporting and disclosures to them. Yet, many consumers of data within an investment firm are unaware of the importance a good data governance framework provides in delivering reliable, accurate and fit-for-purpose inputs across investment and operational processes. This awareness gap is exacerbated for ESG data¹ because it is less evolved than, say, capital market data sources (i.e. accounting data, securities attributes, pricing, volatility measures, etc.) and is generally more subjective or proprietary in form.

The rate of adoption of ESG data across the industry² without due consideration for its nature, how and when it is derived, what methodologies might be used to produce it, and how it will be used within a firms' investment process and disclosures, has the potential to create unintended risks for investment firms. It should therefore be afforded the same level of governance rigor assigned to other major inputs to the investment process and accompanying services. Specifically, any firm producing its own proprietary ESG scores and frameworks needs to exhibit appropriate transparency and oversight to avoid the reality or perception of gaming scores for strategies with higher fees.

The aim of this paper is not to critique or analyse the validity of ESG datasets or independent data vendors. Rather it offers some insights into associated risks and practical considerations for those less versed in adopting ESG data and good data governance.

Why is governance and oversight of data important for ESG?

Data has become the foundation of the modern investment management industry. It is crucial to informing corporate and investment decision-making, compliance controls and risk management practices. For many investment firms, data has in some instances contributed to competitive advantage. Consequently, both the quantum and breadth of data now relied upon has increased exponentially. Data governance therefore, has also become an important control framework, marshalling quality checked and timely data through the required pathways to those using it and, more importantly, reporting the output to clients.

Failure to implement a robust data governance framework creates a multitude of risks to investment processes, the financial outcomes achieved and importantly, the accuracy and validity of disclosures to regulators and end investors. The importance of good data governance does not end when it comes to ESG data. Yet, in the rush to join the growing enthusiasm for ESG investments, many firms ignore the imperative for strong data governance. Instead, in their haste to incorporate often fragmented and inconsistent ESG data sources, without consideration for how the lack of an industry accepted

¹ The term 'ESG data' is used to collectively refer to the various sources of non-financial data related to socially and environmentally responsible practices, corporate governance, climate change factors and other topics related to sustainable businesses.

² 2018 Global Sustainable Investment Review, produced by the Global Sustainable Investment Alliance (www.gsi-alliance.org/wp-content/uploads/2019/03/GSIR_Review2018.3.28.pdf)

reporting taxonomy and weak (or no) oversight might incubate an increase in certain risks. Such risks can manifest as ill-informed investment decisions, inaccurate disclosures to regulators and investors, disingenuous marketing materials, mis-leading outcomes, mis-aligned investment risk controls or worse, mis-selling claims.

The previous statement might be considered alarmist. And it should. Many a regulatory fine or reputation hit in the investment industry has originated from weak governance and poor controls. Regulators' findings are often more critical and fines more severe, where there has been a failure to identify and manage governance risks. Firms should not wait for a regulator to raise questions, but rather address proactively.

The accelerating growth in the incorporation of ESG considerations into investment strategies and the resultant disclosures and marketing content they require, has likely resulted in many firms turning a blind eye to such governance risks. However, such rapid change can increase reputational, regulatory and fiduciary risks.

Reducing risks in the use or production of ESG data

The best way to mitigate these risks whether the data is sourced externally or produced internally, is to undertake the following steps.

- Assess the ESG data (including any alternative data³) in terms of its sourcing method, the timeliness of collation, periodicity and availability, plus any methodologies used in its publication.
- Consider implications of integrating to investment processes in terms of its relatedness to financial data and applicability to the capital structure of investee companies.
- Agree how it should be integrated into an existing data governance framework, ensuring appropriate subject matter experts across the relevant business functions are involved e.g. representatives from investment, marketing, product, client reporting, compliance, risk, data and IT functions.

The discipline and decision-making that these steps invoke offer immediate benefits. Firstly, it prepares firms for more effectively managing the expected evolution of reporting standards/taxonomies, regulatory developments and potential consolidation of providers as ESG becomes more mainstream. Secondly, engagement across functions to agree on the assignation of ESG data sources to existing data used in the investment process and related services, will result in a consistent understanding across the firm in usage and disclosure implications. Lastly, they offer efficiencies to be achieved in leveraging existing governance, oversight and control practices within the firm e.g. managing corporate actions, investment guidelines⁴ management and compliance monitoring. Firms developing their own ESG scores and frameworks must also implement robust oversight to avoid any perceived or actual gaming of ESG data for the benefit of higher fee earning strategies.

³ Alternative data refers to data sets obtained from non-financial sources such as satellites, mobile devices, social media, the internet and other public sources.

⁴ Investment guidelines refer to the regulatory, client or fund specific, and proprietary rules that are housed in rules engines of portfolio and order management systems.

Considerations for integrating ESG data

We elaborate here on some of the main drivers that motivate our suggested risk mitigation steps.

Values or Value?

A recent speech by Commissioner Hester M. Peirce of the U.S. Securities and Exchange Commission⁵ highlighted the subjectivity of existing ESG reporting, including a number of examples outlining the implications that inaccurate, incomplete or inconsistently used data can create for investee companies and investors' outcomes. While the speech was considered controversial, it did identify some real challenges and potentially unintended consequences for investee companies and investors, as a result of inconsistent company reporting mechanisms and divergent methodologies of data vendors.

Tension around the latter in particular is examined in a recent paper by Eccles and Stoeble (2018) of Said Business School, Oxford University. They find a divergence between vendors' methodologies based on their social origins and strategic purpose, resulting in a distinct grouping of those with values-based offerings versus those that are value-based. The difference between them highlights the need for investment firms to carefully consider their reliance on ESG data, vendors and how they are integrated into their investment processes and disclosures.

Alternative and non-financial data

The increased use of alternative data sources to supplement ESG data derived from investee companies or vendors highlights the need to fully comprehend the extent to which alternative datasets link environmental performance of a company to its economic performance. Distinguishing between issues of data quality (i.e., reliability, granularity, freshness, comprehensiveness, actionability, and scarcity) and issues of financial materiality (i.e. conventional and unconventional risks, cost, commitment, influence and construction) (Young In et al, 2019) is an important discipline for integrating ESG and alternative data to investment processes and the wider data governance framework.

Standards and regulations

The investment industry is highly regulated. Information and data accuracy are crucial to the integrity of an investment thesis and associated disclosures and services which must be delivered in a transparent and compliant manner. The lack of agreed theoretical frameworks (ibid.) used in the reporting of ESG data by investee companies has been identified by policy makers, regulators, NGO's and industry trade bodies as a major inhibitor to the deployment of capital to more sustainable companies and projects. (PRI, 2019)

As a result, a number of regulatory and policy initiatives have already mobilised around the world to address the problem. The Sustainable Accounting Standards Board

⁵ www.sec.gov/news/speech/speech-peirce-061819

(SASB)⁶ has developed industry specific financial materiality metrics and collaborated with the Taskforce on Climate related Financial Disclosures (TCFD)⁷ to integrate its recommendations on assessing climate change risks. The European Securities and Markets Authority (ESMA) has recently delivered recommendations to the European Commission on disclosure standards for investors which will in turn be interpreted in Markets in Financial Instruments Directive II (MiFID II) and the Insurance Distribution Directive (IDD)⁸. In October 2019, an amendment to the Occupational Pension Scheme (Investment) Regulations 2005 comes into force which requires pension scheme trustees to have a policy on the management and disclosure of environmental, social, governance and climate change risks as part of their fiduciary duties.

The speed with which these standards and regulations are implemented is likely to lag behind the adoption rate of ESG into investment strategies within the industry. This two-speed conundrum has the potential to create unintended regulatory, legal, financial and reputational risks for investment firms who are increasingly extolling the ESG benefits to risk adjusted returns.

Integrating ESG data into a data governance framework

How might ESG data be integrated into a firm's data governance framework? This will likely take some collective thinking about the relatedness of ESG data to the different securities of investee companies' capital structures and consequently how the data is held in data repositories and masters (see Appendix for details). For example, how does a given ESG data score or attribute relate to the valuation of ordinary shares versus bonds of the same company? How might the governance measures of a company be captured? At the corporate (party level) or at a security (issuer) level?

While such choices might seem benign on the surface, working through this thought process with subject matter experts across business functions will reap benefits. Add to this a more tightly controlled manner by which changes are adopted and a reliable audit trail is formed should any future challenges arise around the use of external or proprietary ESG data.

ESG data governance – some practical examples

On the surface, integrating ESG data into a robust data governance framework might seem like overkill. Maybe even too costly given other priorities that firms have. Yet, as an industry, there is an expectation that ESG will become a mainstream aspect of sustainable financial returns for investors. Today it is rare not to find the ESG acronym scattered throughout investment press articles, marketing content, research and increasingly regulation and policy, not to mention the explosion in new (and existing) funds that promulgate ESG as core to the investment thesis.

For these reasons, the industry must also acknowledge that for such claims to be valid, ESG data must be treated with the same rigor and considerations as other core data

⁶ www.sasb.org/standards-overview/

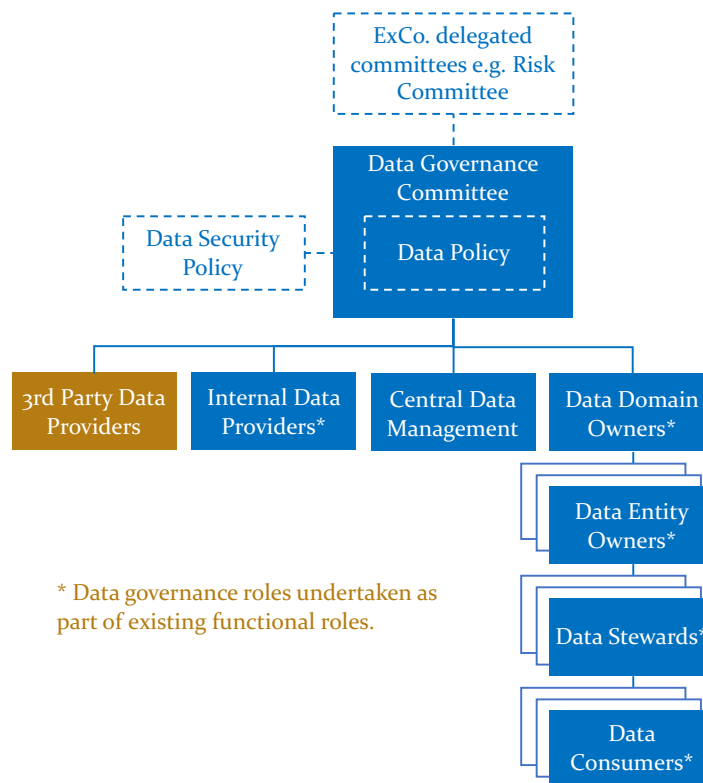
⁷ www.fsb-tcfd.org

⁸ https://www.esma.europa.eu/sites/default/files/library/esma35-43-1737_final_report_on_integrating_sustainability_risks_and_factors_in_the_mifid_ii.pdf

used across the investment value chain. At some point in the near future we may not need to distinguish between them as ESG integration becomes the norm.

To bring this to life, Figure 1 offers a high-level functional model for a typical investment firm followed by some use cases that detail the implications and importance of good governance of ESG data.

Figure 1: Functional model for the integration of ESG data



Source: Authors

The relevance of ESG data use within these functions is guided by the purpose they serve within an investment firm.

Corporate Governance

Boards and Executive Committees (ExCo.) will increasingly be expected by government bodies⁹, regulators¹⁰, stewardship practices¹¹ and fiduciaries to take ESG related information into considerations when debating and enacting corporate decisions and oversight responsibilities. This information needs to extend beyond just the investment offerings to the wider operating practices and control environment of the firm. Increasingly there are calls for compensation measures to be aligned to ESG factors. The ESG data used within a firm must therefore be treated with the same importance as other management data used at Board level.

⁹ British Standards Institution – Publicly Available Standard 7341

¹⁰ Various regulations outlined on page 5.

¹¹ UK Stewardship Code

Internal Audit

As the third line of defense¹² in a firm's overall governance framework, internal audit functions expect to see clear procedures and controls and audit trails that evidence implementation and adherence to them. The use and management of ESG data will naturally fall within this mandate along with existing inputs to investment processes and related activities. A robust data governance framework can therefore be leveraged for ESG data - its use and management - in order to meet those requirements.

Fund Board and Trustee Governance

For similar reasons to Corporate Governance discussed above, the responsibilities of Mutual Fund Boards and Trusts will invariably evolve in line, perhaps even more rapidly. They will be expected to assess and respond accordingly to the impact that ESG factors are (or are not) having on investment outcomes, in accordance with the investment objective and policies, stated in fund and trust documentation. While it might be more obvious for the oversight of specialist investment vehicles with ESG, SRI, Impact or Thematic strategies¹³, ESG considerations are increasingly being held out to investors as having material implications for investment returns across all strategies and asset classes.

Therefore, board members and trustees should undertake greater scrutiny of ESG information as it pertains to risks and investment outcomes and, importantly, value for money assessments and disclosures. Failure to demonstrate this oversight risks the ire of regulators and investors.

Fund and Trust documentation & IMAs

The legal and regulatory documents for funds and trusts and client mandates based on specific Investment Management Agreements (IMA), outline the objectives, policies, risks, fees, charges and providers involved in managing funds/trusts and client mandates. Those dedicated as ESG, SRI, Impact or Thematic will likely have core elements that will depend on ESG data and processes to manage them. Others may not explicitly include ESG related elements and therefore firms must take caution in overplaying the use of ESG factors where they compromise legally or morally what is stated in the documentation and agreements.

Changes to these documents are not taken lightly as they can require costly and time consuming regulatory and client approval. So, there is often a reluctance to update them without due cause and to combine changes periodically. Firms must be cautious about ESG promotion running ahead of any required changes or disclosures in documentation or agreements. Integrating ESG into a wider data governance framework can help mitigate this as all business functions are engaged in the use of ESG data.

¹² Governance best practice for financial services firms considers three 'lines of defence' in the identification, management and oversight of risks and regulatory requirements. The first line is the business or support function, the second line is the compliance and risk functions and the third line is internal audit.

¹³ Strategies deemed ESG or SRI specific have sustainability related factors at their core, with Thematic funds a dedicated subset of these such as water management or renewable energy. Impact strategies aim to achieve specific social or environmental outcomes through their investments.

Investment Guidelines

These are rules usually set up within the portfolio and order management systems used to implement investment decisions by investment managers. They form an important component of the compliance and risk control frameworks within firms. They capture the regulatory rules outlined for investment vehicles and mandates, including any exclusions (e.g. investments in ammunitions, weapons, tobacco, etc.) and exposure constraints (e.g. industry, country, listed versus unlisted securities). They may also support 'house rules' which could be hard or soft (warnings) in nature and it is here where firm wide ESG constraints might need to be managed. For example, certain rules around CO² concentrations in portfolios, or limits on exposures to certain industries like Oil and Gas exposed to climate change.

Each of these will dictate the implementation of investment decisions, creating an important audit trail for how the assets are managed by individuals/teams. For this reason, it is important to fully understand how the ESG data sources are captured and feed into such systems and are managed on an ongoing basis.

Investment Management

There are a vast number of inputs that go into the investment process of different strategies and ESG data is becoming one of the more important in terms of regulatory and investors' expectations. Yet, because the tools and data metrics of providers are vastly different and becoming more costly, those involved in making the investment decisions have to balance how they can most efficiently integrate the most relevant ESG data to the existing tools used. By integrating ESG data into the data governance framework, it is likely that workflow and technology driven efficiencies can benefit investment decision-makers, whilst ensuring that other functions within the firm also benefit from the consistency and availability of ESG data for their respective purposes.

Investment Risk Oversight

The role of this function is to provide challenge and second line oversight to those making investment decisions, in line with the conditions set out in fund/trust documentation and IMA's, and internal policies. Investment risk tools are heavily data dependent. Yet they are probably the most far behind in understanding and integrating the relevant ESG data to comply with upcoming mandatory and scenario modelling requirements of the TCFD.

Likewise, many are behind in understanding how ESG factors might influence the risk/return profiles of the strategies they oversee. By incorporating ESG data into a data governance framework, firms are assisting the investment risk functions in doing exactly that. It will also facilitate the determination of key risk disclosures in regulatory documents such as Key Investor Documents (KID) and marketing content depended on by investors.

Performance and Reporting

As with investment risk oversight, the calculation and reporting of investment performance attribution is fundamentally important to investment decision-makers, management and investors. It is a material factor in the commercial management and

success of investment firms. ESG considerations are being hailed as offering better risk adjusted returns for investors and as a result of regulatory and asset owner/investors' expectations, ESG data and integration to attribution calculations will become standard for performance and client reporting.

However, a particular issue to consider when integrating ESG data for this purpose is that undertaking the industry standard attribution calculations and reference to a performance benchmark, requires ESG characteristics of all securities in the benchmarks and not just those held within a portfolio. This can significantly increase the ESG datasets to be managed. And, importantly, performance attribution calculation and reporting require methodologies to be documented and validated. A robust data governance framework can assist in supporting these needs.

Marketing and Request for Proposal (RFP) Content

Materials that are presented to current and prospective investors are expected to be clear, accurate and not misleading. It is this area that offers the greatest regulatory and reputational risk exposure if ESG data and related disclosures are not governed appropriately. For example, claims of ESG considerations being extremely important to a strategy should not be held out as compromising the stated investment objective and policy of a fund or trust or the IMA expectations. This means that any data driving such disclosures, must be consistent with that used in the other functions and contexts mentioned above. The ability to document and demonstrate the integration of ESG considerations into the investment process when promoting an investment product is paramount.

The indicated risks might not be obvious now with ESG continuing to grow into mainstream investing. A significant market correction or changes in regulation pertaining to ESG could leave some firms on the wrong side of the 'not misleading' criteria where ESG data was presented in the past which is found to be in question. The discipline of integrating ESG data into a wider data governance framework, offers some protection from such risks because it forces some principled decisions around the use of ESG data to be considered. This may not negate such risks, but it will certainly mitigate some unnecessary risks by not putting appropriate oversight and controls around an important contributor to investment processes.

What does a good data governance framework look like?

While some firms continue to grapple with their general internal data management and architectures, the majority of firms will have some semblance of a data governance framework already in place. We provide here an overview of what a best practice data governance framework looks like and what benefits it brings to bear with an ESG data example.

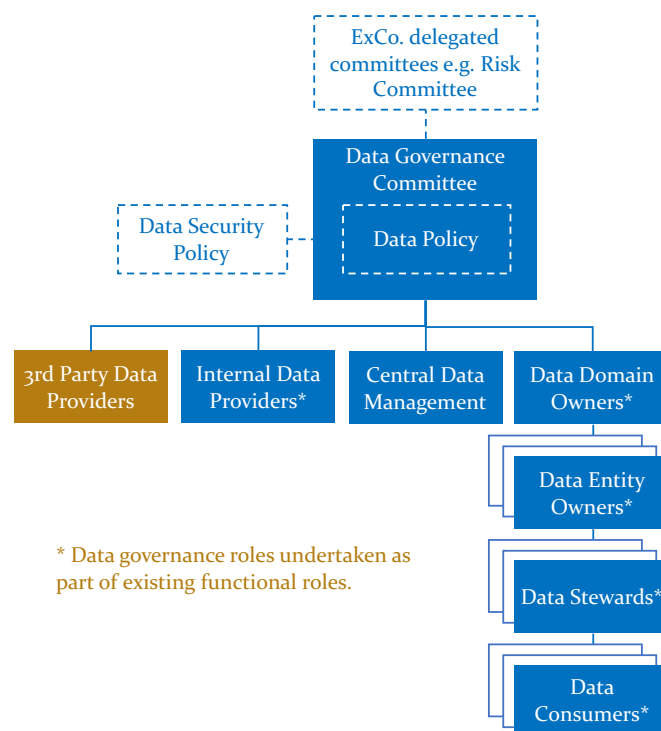
A robust data governance framework will incorporate clear policies and procedures explicit in their purpose and controls, along with a well thought out technical architecture that in turn, supports a reliable and flexible data architecture. Finally, ownership and accountability of each component is a must. These provide rigor around data sourcing and changes, oversight of use and integration, with accountability for related decision-making.

There are therefore two lenses to view this framework through and we reflect these with two models – an organizational model and a data model.

Organisational model

Figure 2 presents the organisational elements that ensure integration with a firm’s overall governance framework, leveraging the roles and technical skills of various existing functions along with their procedures and controls, creating the glue that holds the data governance framework together.

Figure 2: Organisational Model for Data Governance



Source: Authors

Each of the actors within the model have specific roles and accountabilities that interact with each other, ensuring clarity of purpose and mandate. These are generally held as part of their existing functional role. A central data management unit often has dedicated resource to take on some of these roles, particularly for the management of third-party data and data that is used extensively across the business.

Data Governance Committee - The committee should maintain up-to-date terms of reference that outline the members of the committee, frequency of meeting, the responsibilities and the oversight reporting lines (i.e. Risk Committee, Fund Boards). This body will also own the overall policy on how data within the firm is managed and overseen and should complement other relevant policies such as a Data Security Policy.

Data Owners – Individuals within a first line function, holding an appropriate level of seniority and expertise, who are accountable for ensuring the adherence to and execution of the procedures and controls within the data governance principles and framework.

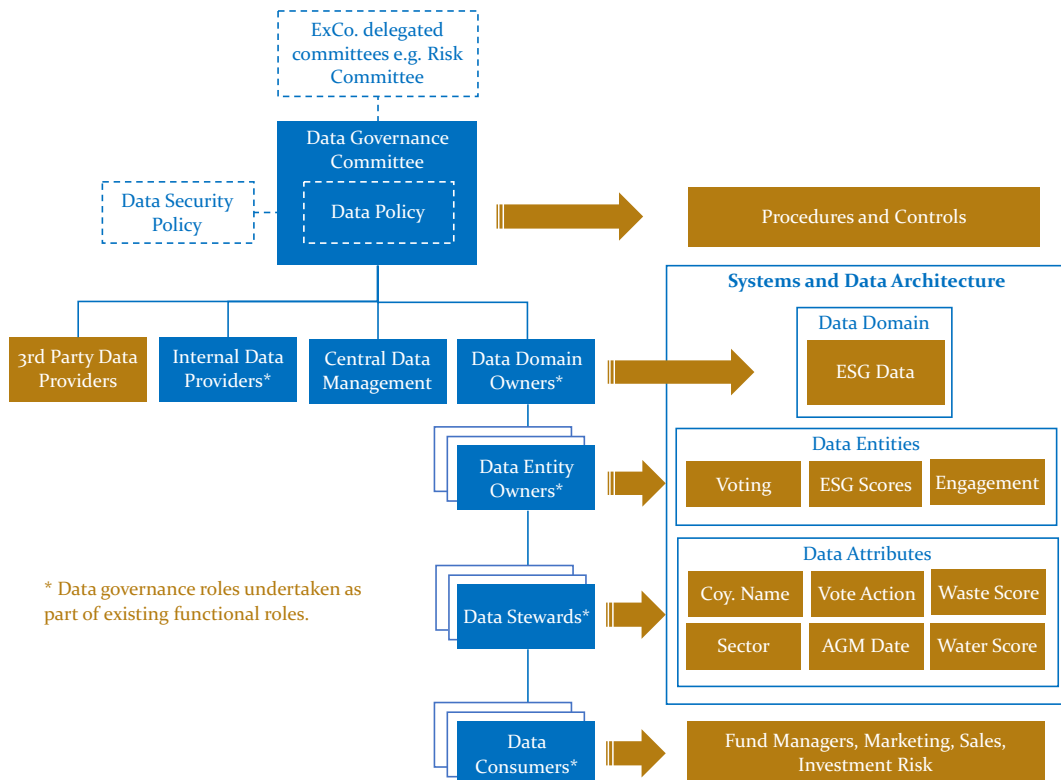
Data Stewards – One or more individuals with day to day responsibility for specific (or all) data entities, by following procedures. They have accountability for ensuring the stated quality and completeness requirements against rules and procedures are delivered.

Data Consumers - Those who consume data from one or more sources for specific purposes and outputs such as making investment decisions, investment risk monitoring, client reporting, development of marketing content and the development of management reports. Data consumers may also generate new forms of data or attributes through proprietary calculations and models or internal processes, which must fold back into the governance model. Importantly, clients and potentially regulators, should be considered within this group.

Data Model

The roles outlined in the Organisational Model interact with the physical systems and data, ensuring a consistency of ownership and taxonomies. This avoids the inherent risks that arise where different pockets of data consumers around the business apply different interpretations of the same data component. The roles within the Data Model for a given universe of data, are pivotal in managing such risks as they will invariably have a good understanding of the data and related use cases, but also have clear accountability for its management. Figure 3 reflects an ESG specific example of how the two models create the relevant oversight framework.

Figure 3: Integrated ESG specific use case



Source: Authors

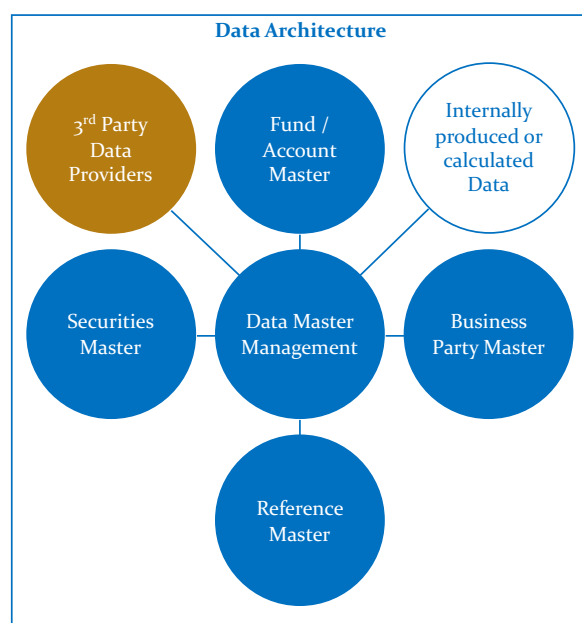
Within this governance framework and underlying data architecture, lives a set of defined data masters. Each has a specific purpose according to the nature of the data domains. By utilising master reference repositories, a data governance framework and architecture offer greater consistency and quality via a ‘golden source’ for each data asset domain/entity. Referencing and linkage of data attributes across the firm can then be facilitated with minimal duplication and consistent data quality.

Data is often distributed across multiple functions within an investment firm and viewed through a range of different lenses depending on the data consumers’ needs. Having a master source enables the integrity of the data to be maintained across all use cases.

Best practice reflects the use of ‘master tables’ (golden source) that contain the data links for various reference data entities grouped by their business relevance and overseen by Data Owners. Figure 4 captures diagrammatically the standard masters used in the industry.

- Business Party Master (e.g. Investors entities, brokers, etc.)
- Securities Master (e.g. ordinary shares, bonds, derivative instruments, etc.)
- Fund/Account Master (e.g. identifiers for client portfolios and fund entities)
- Reference Data Master(s) (e.g. FX, Currency ISO codes, etc.)

Figure 4: High-level Data model for Data Governance



Source: Aviva Investors

Policy, Procedures and Controls

A good data governance framework needs to evolve as changes within the business and the external environment arise. Changes include not only the needs and demands of consumers of the data, but also technological and regulatory developments which may drive the need to re-visit all or some of the governance framework. Maturity levels of policies and controls will therefore vary from time to time but very much operate as the glue holding the framework together. Importantly regulators, auditors and investors

expect the main components of a data governance framework to be in place at all times. In particular, it is important to ensure that a firm actually does what it says it does in terms of policies and procedures in general, including ESG practices. Some of the most painful spotlights shone on firms' failings have highlighted a gap in what is purported to be in place, yet evidence reflected a lack of application in practice.

Typically, developing and implementing core principles based around the lifecycle of our data, policies and controls to be implemented lead to a solid foundation for a data governance framework. This might include statements around what constitutes 'quality' or 'availability' of data. Policies and procedures can then manifest more effectively from agreed principles. These principles should be transparent and incorporate creation, deletion and amending of data, quality (structure and timeliness), storage, levels of oversight and accountability which in turn will be broken down to system/source specific procedures. Controls are then implemented to ensure compliance with stated principles and procedures.

Bibliography

Eccles, Robert G. and Strohle, Judith, Exploring Social Origins in the Construction of ESG Measures (July 12, 2018). Available at

SSRN: <https://ssrn.com/abstract=3212685> or <http://dx.doi.org/10.2139/ssrn.3212685>

In, Soh Young and Rook, Dane and Monk, Ashby H. B., Integrating Alternative Data (Also Known as ESG Data) in Investment Decision Making (May 1, 2019). Available at

SSRN: <https://ssrn.com/abstract=3380835> or <http://dx.doi.org/10.2139/ssrn.3380835>

Principles for Responsible Investment, 2019. www.unpri.org