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THE CAPCO INSTITUTE JOURNAL OF FINANCIAL TRANSFORMATION

GOVERNANCE

Redesigning data assimilation and sourcing strategies GEORGE GEORGIOU

ESG

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DEAR READER,

Welcome to edition 56 of the Capco Institute Journal of Financial Transformation, produced in partnership with King's Business School and dedicated to the theme of ESG – environmental, social and governance.

We all recognize that transformation towards a green economic system via sustainable finance is needed, welcome and inevitable. Our clients have a crucial role to play here. Acknowledging the scope and complexity of the evolving ESG landscape, we are perfectly positioned to prepare them for the ESG era.

With climate change accelerating and generating physical events on an unprecedented scale, governments and societies are considering measures to mitigate carbon emissions via net zero initiatives. The focus is firmly on greater sustainability and more equitable policies in response to shifting public attitudes. ESG considerations are reshaping investment risks on the one hand, and opening the way for green financing and sustainable technologies and innovations on the other.

This edition of the Journal examines all three pillars – environmental, social, and governance, highlighting efforts by regulators and practitioners to create a unified approach.

Moving forward, compliance with emerging ESG standards will be a critical differentiator for long-term business success. Data will also play a critical role in delivering the transparency and insights required to validate the ESG credentials of businesses, and investment strategies. Advances in areas such as machine learning, artificial intelligence and cloud technologies will be key to establishing a future model of sustainable finance.

This edition draws upon the knowledge and experience of world-class experts from both industry and academia, covering a host of ESG topics and innovations including the value of tracking Return on Sustainability Investment (ROSI) and the importance of moving away from purely external risks to addressing issues that can have positive commercial and societal impacts.

I hope that that the research and analysis within this edition will prove valuable for you as you shape your own ESG strategies, policies, and innovation.

Thank you to all our contributors and thank you for reading.

Lance Levy, Capco CEO

REDESIGNING DATA ASSIMILATION AND SOURCING STRATEGIES

GEORGE GEORGIOU | Managing Principal, Capco

ABSTRACT

In recent years we have seen the onus shifting onto financial services firms to implement structured methodologies and metrics to identify, assess, and validate their own environmental, social, and governance (ESG) credentials along with those of the companies they finance, invest in, or use as suppliers – in effect becoming the arbiters of sound ESG practices across global markets. Delivering that validation demands a deep-dive into data that encompasses both financial and non-financial activities in order to quantify positive or negative ESG-related impacts. However, the highly complex, interlinked, and global nature of the financial services industry means this is no easy task. Greenwashing, fragmented regulations, and diverse (and sometimes divergent) ESG measurement methodologies all clutter the pathway to clear and reliable ESG evaluations. This paper outlines approaches for assessing ESG data scoping and sourcing, and sets out one specific approach/best practice for incorporating corporate ESG data strategies.

1. FINANCIAL SERVICES AND THE CASE FOR ESG DATA

"I have no data yet. It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit." Sherlock Holmes, A Scandal in Bohemia

Rarely a truer word spoken, even if uttered by a fictional detective – and particularly pertinent today in the context of ESG in financial services and the search for underlying facts in data. Since the early 2000s, when Kofi Annan, Secretary General of the United Nations, formed the U.N. Global Compact and asked 55 of the most powerful financial services CEOs to consider the holistic view of ESG,¹ the search for – and validation of – appropriate data to confirm institutions' "green" credentials has become a fundamental challenge in itself.

Historically, the financial returns challenge facing the world of finance was framed within a two-dimensional view encompassing performance and risk. From the first records of banking activity, exemplified in ancient Mesopotamian temple and grain ledgers, the core measurement and metric for returns has revolved around monetary gain and not wider social-macro benefits. The consideration of ESG risks has traditionally fallen largely outside the realms of core banking strategies – as has the consideration and collection of corresponding data.

Let us briefly review the nature of a traditional transaction: typically, a loan of some description where the agent (banker) provides a sum of money in exchange for the return of this capital at some time in the future, either over a period or in one lump sum. This facilitation of capital is rewarded for the investment in the individual or the entity, with an additional return of capital to compensate for the risk taken. The focus therein lies on the transaction and the risk accommodation between the two parties.

The parameters to price this risk are, and have always been, focused on the transaction and the individual counterparty. This was true of the Mesopotamian bankers looking at the quality of a farmer's land² (repayment risk modeling) and has continued through history as a core tenet of risk and reward calculation and mitigation. Even now, highly sophisticated

¹ https://bit.ly/3UNizbw

² https://bit.ly/3B04Eck

credit modeling and feeds fundamentally still look at factors related to the person/entity receiving the money. It has since become more obvious that macro-societal factors, although ostensibly priced into the business model, may have a deeper and more fundamental effect on the assuredness of returns.

This paradigm has now been undermined by the realization that financial service firms have a responsibility toward wider society and the planet to consider the impact of these activities. Hence, the effects of their business on society and the environment should be priced into their products and services and considered from a wider risk modeling perspective. Supported by an impressive 28 percent annual growth rate over the past five years, the ESG data market will surpass U.S.\$1.3 billion by 2022. It has been forecasted that the global market for ESG data will surpass U.S.\$5 billion by 2025.³ In an effort to bring about change, regulators and governments have taken notice: one early trailblazer was the U.K.'s Financial Conduct Authority (FCA), who earlier this year wrote a letter requesting that authorized fund managers address the delivery of sustainable investment funds.⁴ Not only should firms consider traditional ESG factor valuation in terms of book value and asset value, but also the impact of encouraging ethical practice on overall longer-term value creation (intrinsic brand valuation).

As the financial service industry gets to grips with society's and regulators' needs to consider ESG in their wider product, lending, and investment approaches, we have seen a step change initially around the marketing of products and latterly the actual behavior of the financial services business itself.

As banks and financial services firms have pivoted toward a consideration of ESG factors – and in many cases embraced the opportunity to access and deploy new pools of capital – there has been a veritable flood of ESG-related products.⁵ However, this opportunity brings with it the specter of overstating green credentials.⁶ From oil-soaked "green" portfolios to ethical credit cards that reward users with air miles, mistakes – to put it mildly – have been made.

To address such issues, in September 2021 the U.K. Competitions and Markets Authority (CMA) published a "Green Claims Code",⁷ outlining the requirements for making a valid environmental claim about a product or service. Although this is not specifically targeted at financial services firms, it is a fair proxy of wider sentiment on this issue and underlines concerns about the public being misled to further commercial interests.

A reckoning may be coming, as outlined in our report "Tomorrow's mis-selling scandal?".⁸ In the meantime, the nirvana of comprehensive and credible ESG data is increasingly being pursued across financial services to support the true measurement of ESG impact and performance.

What has changed - driven in the main by regulators responding to the impetus and expanding appetite of consumers and shareholders - is the increase in accountability. From April 6th, 2022, over 1,300 of the largest U.K.-registered companies and financial institutions will have to disclose climate-related financial information on a mandatory basis via the SDR (Sustainability Disclosure Regime) - in line with recommendations from the Task Force on Climate-Related Financial Disclosures.⁹ This will include many of the U.K.'s banks and insurers, so it is important for them to improve how they report their ESG metrics to move the needle now. The acquisition of supporting data has accordingly become the cornerstone of any sensible and considered ESG and sustainability strategy.¹⁰ Without proof and empirical data, notably for rules such as Sustainable Finance Disclosure Regulation (SFDR)¹¹ and Corporate Sustainability and Responsibility Directive (CSRD)¹² among others, any efforts to justify, support, and communicate an ESG assertion or benefit can easily be labeled as a "greenwashing" strategy, or at worst, deception (as per the VW Dieselgate saga).¹³ There have, however, been efforts towards globalizing standards. When issuing exposure drafts in March 2022, International Sustainability Standards Board (ISSB) consolidated content from the Task Force on Climate-related Financial Disclosures (TCFD), Climate Disclosure Standards Board (CDSB),

- 4 https://bit.ly/3dKR95c
- 5 https://bloom.bg/3E0K8bm
- 6 https://on.ft.com/3rcEMSD
- 7 https://bit.ly/3dLiX9x
- 8 https://bit.ly/3SjBSYa
- ⁹ https://bit.ly/3xXeOWW
- 10 https://on.ft.com/3xXlvbL
- 11 https://bit.ly/3RdBylZ
- 12 https://bit.ly/3BK0RNc

³ https://bit.ly/3LNSXH4

¹³ https://bbc.in/2L0236V

Sustainability Accounting Standards Board (SASB), Integrated Reporting, and the World Economic Forum's International Business Council's (WEF IBC) stakeholder capitalism metrics.¹⁴

2. SCOPING ESG DATA STARTS HERE

2.1 The fundamental purpose of ESG in financial services

When looking at the new types of required data, we can see some obvious groupings. At the highest level these are drawn from the U.N.'s 17 Sustainable Development Goals (SDGs) and represent several pillars or groups of thematic areas that should be considered from an ESG perspective (Figure 1).

The challenge with the U.N. SDGs is that – as the name indicates – they are essentially goals and do not talk to a wider set of metrics to inform an auditable outcome. One must also consider that SDGs, although a widely recognized set of corporate imperatives, are not the only measures of ESG impact – indeed, some companies may choose to formulate their own views on critical ESG drivers. Nonetheless, whichever measure one chooses to align with, they will ultimately all require data to facilitate any measurement and adjustment of corporate strategy. With this in mind, various third parties, regulators, and data vendors have cut these SDG pillars to suit their own needs and bucketed them into relevant thematic groupings.

We have created a commonsense grouping of 20 themes derived from the original 17 SDGs (Figure 2).

This grouping within pragmatic subsets (of which Figure 2 is one potential representation) means measurement metrics can be assessed, data purchased, and/or opinions and metrics assimilated to better understand how a firm's activities impact on the overarching SDGs. From this, financial services participants can deduce how the metrics can be formed and deployed, be it for their own operations, supply chain assessments, or delivering downstream public commitments or regulatory reporting (such as SFDR amongst others). The challenge with these high-level groupings and metrics is in the detail: SFDR, for example, is somewhat prescriptive in its methodology – although this is not the case for all regulations.

2.2 ESG data – identifying your corporate needs

As is evident in the market – and reflecting the enormity of the task – a wider ESG data appreciation is typically not conducted as one overarching exercise. In order to identify needs and establish the scope of all the required data in the most comprehensive fashion, a firm-wide view of the value chain – front-to-back office and product-to-procurement – should be conducted to determine how these functions and products are mapped to regulatory needs and, by extension, the respective data requirements for these areas. When coupled



14 https://bit.ly/3DYGA9u



Figure 2: Thematic grouping of U.N. SDGs

Source: Capco

with wider shareholder and public commitments (such as net zero goals for carbon neutrality within a certain time scale), an overall picture of the ESG data required, and by whom, can be constructed.

Alongside regulations, public commitments, and pan-value chain needs, there is a fourth ESG data dimension – time horizons. Cost and budget implications (share of corporate cost spend) are a further, fifth dimension. Incorporating these will enable the creation of a clear "batting order" of data needs. Priorities can accordingly be set, overlaps and synergies noted, and costs and benefits prioritized to reach a view on how best to assimilate data – "why buy ESG data three times for three different users when it can be bought smarter once through a central data sharing function?" Addressing ESG data requirements for all relevant processes and actors allows for an intelligent roadmap design that underpins the required holistic approach to data assimilation.

Looking to a universal bank example, it may be the case – albeit due to a combination of ethics and good governance – that services and goods are being generated by the bank across various functions while linked to the same underlying corporate entity/client. The asset management arm is investing in the client entity, with the retail bank also providing debt, mortgages, and structured products, and the investment bank helping it raise new capital. However, when it comes to capturing and assessing ESG-related data for that client entity, legacy IT, infrastructure, procedures, and processes mean that the picture is somewhat fragmented.

All these business divisions sit separately, with aforementioned distinct governance, but the overarching need remains for ESG data that is harmonized across these divisions and could ostensibly be accommodated via one central repository – a firm-wide "golden source". As an aside: this utopian view of data would also solve for many other issues where data and architecture are key factors, with operational resilience being one example. That said, consideration should be given to the idea of ESG data as a distinct and special case. It is effectively a new type of data for financial services, one that has wide-reaching and long-term implications for firms going forward and hence – given proper investment and management – will offer enhanced shareholder value in perpetuity.

A coherent evaluation of the firm's entire value chain is required to form a comprehensive ESG profile; ESG data requirements must be considered for all products, processes, customers, and suppliers. Consider the example of greenhouse gas emissions (GHGs). If a bank has set Net Zero 2030 targets (for instance, to be GHG neutral for their own operations by 2030), then it will need to fully understand the profile of its upstream suppliers and downstream buyers (Scope 3 GHG emissions), for example, an outsourced photocopying company. It may also be aspiring to become "funded net zero" by 2050, that is for the bank's clients to also achieve their own net zero status. If it has a 30-year mortgage or asset-backed product with the same photocopying company, the GHGs profile of this company may again need to be considered. The same GHG emissions for the same company are being scrutinized by totally different parts of the bank/firm to satisfy totally different commitments or regulations; albeit this downstream photocopying company will only have one correct GHG answer.

Using a centralized source as outlined above should prevent inconsistent interpretation of ESG data. For example, the investment banking arm of a universal bank may trade a given ESG stock while its sister asset manager refuses to include the stock in its ESG portfolios - all as a result of inconsistent access to the relevant data. This additionally serves to undermine the bank's overall ESG credibility when its divisional capabilities are not aligned in their views of the companies' green credentials. It is often the case (both anecdotally and via proprietary work we have conducted) that the holistic firm view of ESG data has been federated as a function of individual needs and the maturing and different domain requirements within the business. Many firms need answers to ESG questions at different stages of their life cycle, so a fragmented provision inevitably evolves over time. Often these are the same questions, requiring similar, if not identical. ESG data to be downloaded and surfaced from different suppliers to arrive at different answers for the same end-entity. These overlaps and differences represent not only a real risk to understanding the institution's ESG profile, but at best are a waste of money. This leads back to the original point – a full institution-wide "ESG needs" assessment should be conducted to create a "golden source" and a holistic view of the respective ESG data requirements.

Needs will adapt and data provision and quality will change over time, but without this "line in the sand" reset, disjointed – and hence inconsistent and unreliable – data provision will only endure. Proceeding with a siloed approach will ultimately introduce transverse risk and wastage across the firm. This can be designed out via a swift and decisive ESG data needs picture that can then be refreshed as required, garnering best practice and maintaining a "grip" on this most complex of data procurement conundrums. It all starts with the question: "what do we really need across the whole firm"? A key consideration when compiling and plotting the data assimilation roadmap is that there will be a natural prioritization of ESG data needs from pre-existing programs of work, current and impending regulations, and focus within the business. To inform prioritization, it is vital to look at not only the current strategic ESG priorities (and the data needs) but also upcoming and future demands. In doing so, historic ESG data provision plus the historic book of work can be considered against future regulatory and strategic needs for ESG data. It is only when this overall picture of ESG data has been collated that a prioritization can be considered both in terms of business needs and the associated cost implications. The overall picture must be understood, as typically this is where the duplication of data procurement across different parts of the firm - be it cross-division, cross-deography. or at different stages of program maturity - results in the duplication/overlaps of ESG data in the firm.

2.3 Understanding the level of data required is key

Once it is agreed that a more formalized/unified view is required, there is a natural tendency to immediately initiate outreach to a solutions or data provider. The initial scoping approach is almost always followed by an RFP to appropriate vendors with a view to them providing an "answer" regarding who has the data and who do I buy it from. However, this "jump" to an external vendor is not without risk, and there are intermediary steps that should be considered to ensure ESG data is leveraged in an optimal fashion.

In this context, the data can encompass various provisions, feeds, and approaches – Figure 3 captures the various levels of data hierarchy. The data hierarchy outlined in Figure 3 allows firms to consider and understand more effectively the various levels of ESG data that are available in the market and what level of granularity they require for their needs.

Depending on the type of ESG information required, the appropriate data level and hence source should be identified to determine the desired combination of third-party data and any appropriate in-house proprietary data gathering and manipulation.

- Level one of the hierarchy covers data required to assess the overall ESG rating, or the specific E, S, and G ratings of a company or potentially a major thematic grouping like climate.
- Level two provides more detailed data relating to a specific sub-metric – for example, the GHG output or water pollution produced by a company.
- Level three contains the most granular level of data corresponding to the underlying "key data elements" (KDEs). The dependence on outsourced data is greatest at level one; while at level three the ESG data analysis is carried out internally based on core KDEs that have been sourced directly.

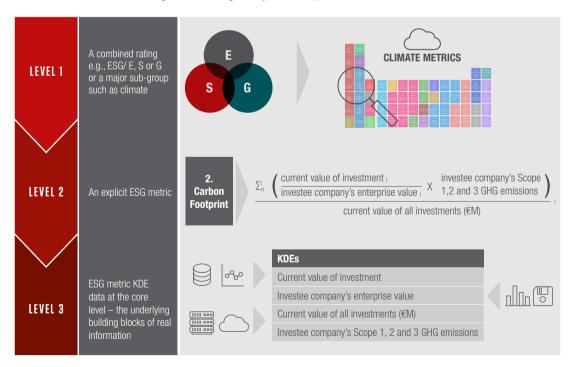
By understanding the level of granularity (levels one, two, or three) that are required by the firm in order to achieve their commercial and regulatory goals, the type and level of sophistication of inbound ESG data can, therefore, be defined. There is a wider question, which is critical to this rationale and choice, regarding what system or architecture will the data be fed into for the firm's use. This topic will be explored in more detail in a follow-up article. However, in the context of choosing the level of granularity of data required, there will need to be an understanding as to what system this data will feed into and whether this requires new systems or whether it can be integrated into pre-existing data infrastructures.

Armed with this foundational view of what they need in terms of end-use ESG data, firms will be far better positioned regarding which third-party data providers to use, the engagement approach, and the procurement model – all of which we explore in the next section.

3. SOURCING ESG DATA: QUALITY, CONSISTENCY AND CONTROL

The issue of sourcing ESG data presents some existential questions for the firm. Do I want an answer to my E, S, and G questions from a third party? Do I want individual metrics answered specifically, e.g., GHGs? Who designs the metrics/ methodology, and can I trust them? Ultimately, do I only want to obtain the underlying supporting data (route data) and use it to create my own proprietary, independent metrics? The answers to these questions will facilitate a broader view of any strategic assimilation of ESG data, fundamentally providing a financial services firm's view as to what data they need to buy and at what level of manipulation.

Figure 3: Breaking down your ESG requirement into data levels



Once the required view of the underlying ESG data and its level of detail have been determined in line with the firm's ESG needs, an informed "shopping list" covering its requirements can be generated that captures all the different ESG data that need to be brought into the firm (ESG data requirements list).

In practical terms, from a risk and data lineage integrity perspective, major institutions such as global systemically important banks (GSIBs) will likely need to source both vendorprovided data/ESG answers and the underlying route data/ KDEs. Cost will no doubt be a significant factor in this strategy. Everyone wants a car that looks and performs like a Ferrari, has the environmental profile of an EV, and has the boot space of a van, all for the price of a Dacia. Data is no different - like the family car, ESG data comes with inherent compromises, hence highlighting the importance of the aforementioned pragmatic business ESG data scoping exercise, especially the ranking of business priorities (and the ESG data they need) against the associated cost of provision.

As the ESG data sector continues to grow, driven by an arms race among larger traditional ratings agencies, consolidation across data providers will continue as niche and sciencebased players are bought up; guality will likely increase and the choice of providers will narrow.¹⁵ Providers should, therefore, also be assessed from both a strategic procurement and risk perspective, and not just in terms of the scoping exercise and its duration to mitigate potential long-term dependence from single significant providers (as evident in market data monopolies).

That being said, the largest providers of data will undoubtedly account for a significant proportion of the ESG data provided to most financial services firms. Whether data is bought from these larger vendors or smaller niche providers, the plethora of assertions and claims underpinning this data must be tested in a robust way. The industry is wrestling with significant holes in datasets currently, with zeros, blanks, and #REF or synthetic replacement data commonplace, highlighting the demand. In reality, this reflects the immaturity of this new type of data requirement and the associated gaps arising from customer's needs not aligning with the current availability of underlying datasets, highlighting the demand for "show me" over "tell me" reporting.¹⁶ Essentially, nobody is currently measuring or collecting all the ESG data on downstream clients, with much of what is available being graded as "untrustworthy",¹⁷ hence creating a disconnect in the data value chain.

Figure 4: Breakdown in complexity of ESG KDEs

Based on our assessment, circa 20% of the KDEs will require alternative sourcing models due to their unavailability and complexity. An additional 69% will represent some sourcing challenges due to gaps in the coverage of larger data providers and differences in the calculation methodologies used. Only 11% will be easy to source.

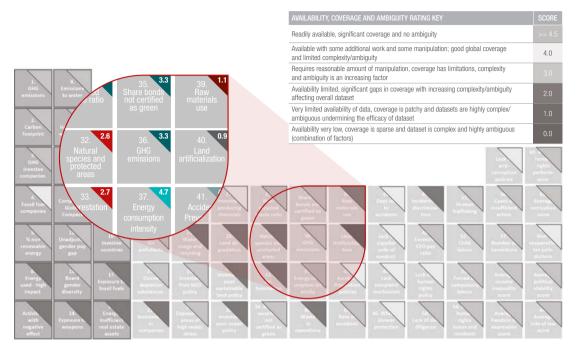
	EASE OF SOURCING	0-1	1-2	2-3	3-4	4-4.5	4.5.5	TOTAL	
SUMMARY OF RESULTS FROM OUR INITIAL ASSESSMENT EXERCISE	ESG KDEs	()		Mid-range scores (2-4)				3 97 High scores (4-5)	
	 19 KDEs are considered to be non-traditional datasets and widely unavailable If these are strategic differentiators or mandatory requirements for the company, alternative sourcing models are likely 		mid- t data p In add for an KDEs potent	 The largest portion of KDEs fall into this mid- to low-score range. This is due to larger data providers having gaps in their coverage. In addition, the methodologies they apply for analysing the more subjective/vague KDEs can differ significantly, resulting in potentially different values for the same KDE across vendors 			 From our assessment, a number of KDEs scored highly in terms of their availability, coverage and complexity – meaning these would be easy to source internally and/or from external providers 		
	to be requir	ed ~20 %	score – e.g. highly but lov data a	 There are also a number of KDEs that score highly in one area but low in others e.g., "Board gender diversity" scores highly for availability and complexity, but low for coverage due to gaps in data and reporting from less-developed and developing countries ~69 % 				~11%	

15 https://bit.ly/3LMw7jk

¹⁶ https://bit.ly/3BSLpys

17 https://bit.ly/3UDeK8u

Figure 5: Recomposed metric quality as a function of underlying KDEs



Recognizing the immaturity and imperfections of ESG data, financial services firms will want to gain a clear understanding of the depth and quality of data that can be provided. Limitations reports, outlining issues, including data blind spots, should be requested from third-party providers. Identifying quality data in a saturated market is a major issue. One example of where the problem is being addressed is through initiatives where data is provided in an open source environment, such as the ESG Book, aimed at creating reliable data and countering "data issues" that arise from a lack of underlying visibility.¹⁸ Whether private and proprietary or open source, the long run is unclear for ESG data but its importance and relevance is widely accepted.

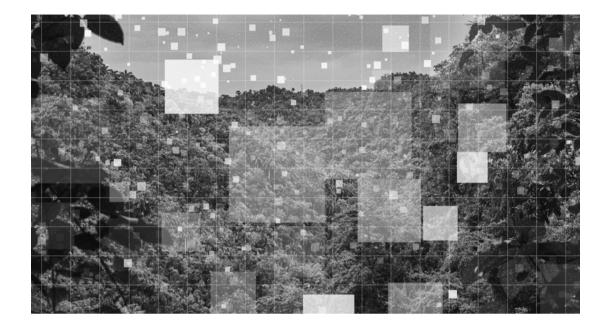
The commercial impact of poor ESG data on the end user cannot be underestimated from a reputation, brand, and regulatory perspective. As such, alongside limitation guarantees, indemnification quality assurances and commercial penalties may be considered or sought outside of traditional market data provision contracts. This approach may well create tension between ESG data and vendees, but in a new, unstructured ESG data arms race, a new partnering and provision model is likely to both be required and naturally evolve.

3.1 Digging deeper into the data – due diligence at the KDE level

Many traditional data providers may purport to be all things to all customers from an ESG data perspective – but the reality is not that clear-cut. When mapping data requirements to providers' capabilities, it is likely that the picture of available ESG data provision will be a "jigsaw", with elements of provider overlap. In order to see through providers' marketing promises, and to get to the underlying truth and gain real understanding of data quality, firms should look to establish a view of data integrity at the most fundamental level to help clear the fog around this most difficult of procurement issues.

Looking at the initial KDE assessment in Figure 4, we can see which of the underlying data elements are accessible – or "good" – and from there deduce the impact they have on the metrics that are derived from them. By extension, by recomposing the KDEs into a weighted score for an associated ESG metric, one is able to judge – and crucially demonstrate – the quality/value of the final ESG metric as a function of its fundamental data components.

18 https://bit.ly/3xZl1Sm



We conducted a proprietary analysis that examined the quality of the core underlying KDEs that provide the "building blocks" for common ESG metrics (Figure 4). By looking at the quality of the underlying KDEs, it is possible to interpret and extrapolate the ultimate quality of the associated ESG metric. By extension, assessing the KDEs on the basis of factors such as complexity, availability, sector, market coverage, and so forth, allows firms to reach a demonstrable and quantitative measurement by which any ESG metric they use can be assessed for quality of provision and trustworthiness.

However, as Figure 4 demonstrates, the quality – and indeed availability – of the KDEs that firms may require is not guaranteed; firms may accordingly need to identify alternative data sources.

Providers will inevitably argue the merits and quality of their metrics and answers – but for true comfort, the real test of those attributes is to dig into the route data/KDEs used to inform said metrics.

The ideal approach with this analysis is to take the KDE ratings and recompose them mathematically to see the outcome on the common ESG metrics (Figure 5). The picture this paints, in terms of the quality of standard ESG metrics, might be considered somewhat stark. However, to be forewarned is forearmed and this approach significantly helps in understanding the strength and weaknesses of your

ESG metrics. It follows that, when sourcing these metrics, either self-generated internally from source/KDE data or simply bought from a third party, firms are better positioned to approach providers with regards to understanding the ultimate metric quality.

We have created the recomposed metrics rating in Figure 5 to provide an overview of the reliability of a metric as a function of the underlying KDE availability. It essentially provides a map that, regardless of the provider and their assertions, flags up shortcomings in their metrics – and, accordingly, the level of skepticism with which a firm should treat those metrics.

Armed with both this map and a clear idea of their own scoping needs, the "jigsaw" of providers can be arranged to meet a firm's requirements. When it comes to more complicated and difficult ESG metrics, firms can look to bring in specialists as and when required (whether to address competitive or regulatory needs).

A "real world" example of this approach would be utilizing the larger ratings agencies to cover all geographies for general E, S, and G metrics, but also drawing upon a handful of specialist data providers for biodiversity metrics, GHGs, or specific board diversity requirements to augment those high-level E, S, and G data feeds. This "big and small" or "overarching and specialist" approach will ultimately identify a suite of data providers that are qualified to meet a firm's specific needs, factoring in commercial requirements and the final cost of provision.

This approach should provide the necessary level of comfort when a financial services organization is implementing a mass ESG data provision assimilation or procurement strategy. This strategic approach to ESG data assimilation will illustrate that an appropriate level of managerial due diligence has been conducted, a robust methodology is adopted, and this can be updated and reviewed on a timely basis. Although not an exhaustive solution, it allows for some mitigation from concentration risk – as this approach circumvents the traditional market data issue of having all your "data eggs in one basket" – while also getting to the right ESG answers at a commercially viable price.

4. CONCLUSION

Due to its dynamic, complex, and increasingly expansive nature, the ESG data landscape is challenging for firms to map, let alone navigate. The task of scoping and sourcing relevant, high-quality data can be intimidating in the extreme.

As this paper outlines, rigorously scoping ESG data requirements on the basis of the level of detail and type of information required, will offer the clearest understanding of how and where third-party data should be sourced. In the likely absence of a central "golden source" of ESG data, it is key to acknowledge the risks associated with sourcing unreliable or subjective data. Using a KDE scoring methodology, aligned to

a good scoping and business-needs exercise, will inevitably reduce and mitigate some of the inherent risks in assimilating ESG data in the current immature market for its provision.

Data needs are only likely to escalate over time, in line with growing demand for "proof" of data quality and access to more comprehensive pools of data. As such, an ESG data assimilation model requires continuous revision to make relevant updates on a timely basis and as appropriate to a firm's needs. As the ESG data market expands, the potential to commercialize the data for industry utility increases. Although this market is in its infancy, being able to unambiguously prove your ESG credentials is vital to reap the longer-term commercial benefits and thrive in the impending green industrial revolution.

Whether responding to regulatory demands over the next few years or satisfying stakeholder-driven imperatives – the stick or the carrot – how a firm incorporates quality ESG data into its business strategy will be key and should be top of boardroom agendas.

Back to our old friend Sherlock Holmes: "Data! Data! Data!" he cried impatiently. "I can't make bricks without clay."¹⁹ Time will tell, but all indications suggest the same sentiment will preoccupy leadership in financial services firms in their sustainability and ESG endeavors for some time to come.

¹⁹ The Adventure of the Copper Beeches – a Sherlock Holmes Short Story, Sir Arthur Conan Doyle

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