Sustainability: Data Quality or Data Analytics?
What to do for an Audit? Waste as Example topic
By Douglas Hileman, FSA, CRMA, CPEA

Companies generate and manage a large amount of Sustainability data. Assurance requirements are looming – for climate-related data in some jurisdictions and more topics in others. Data **quality** and data **analytics** are often discussed regarding Sustainability data – as though they are the same thing. They're not[1]. In a nutshell, here's the difference.

	What it is	**How the Activity is Used**
Data **QUALITY**	Is the data **right?** Is it accurate, complete, consistent and reliable?	Users can trust and rely on data.
Data **ANALYTICS**	What does the data **mean**? What story does it tell, and to whom?	Helps users make their decisions.

Douglas Hileman Consulting LLC (DHC) suggests that understanding the drivers and objectives can help focus efforts to be more effective and efficient. It can also help you prepare for an assurance engagement or any type of audit. Let's illustrate the difference using waste as an example[2].

Data Quality

Much Sustainability reporting has evolved from voluntary to mandatory. Some reporting on Sustainability topics has been required by regulations for years. The demand from capital markets has changed the game. Disclosure models for use by capital markets (SEC rules, guidance and proposals; SASB/ TCFD, ISSB) include parameters that go beyond traditional regulatory compliance (imposed by OSHA, EPA, Department of Labor, etc.).

Capital markets are using data as a component of investment decisions. This includes traditional equity investments, private equity financing and loans. Business partners use Sustainability data obtained from B2B channels as part of third party risk management. There can be consequences up to (and including) removal of companies from their value chain.

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[1] I co-presented "How Data Analytics Can Support ESG Compliance" at the Society of Corporate Compliance and Ethics' ESG and Compliance Conference in November 2024. Organization's website at https://www.corporatecompliance.org/. The conference agenda at: Agenda & Speakers.

[2] See www.douglashileman.com for a companion piece using safety as an example.

<u>Waste diverted from disposal for reuse or recycling.</u>

Some companies have used this parameter for voluntary Sustainability reporting. This is among the disclosure topics in the EU's Sustainability Reporting Standard (ESRS). In both cases, companies determine what is appropriate for them, and make disclosures (or not) accordingly.

Management of hazardous waste has been a compliance requirement for decades. Companies have robust controls to collect data for <u>compliance</u> reporting. The current state of data quality is high.

Reuse or recycling of materials is voluntary. Companies may have a patchwork of initiatives, driven at the local level. These efforts may be driven by a financial ROI, or by employee preference.

There are challenges in obtaining quality data. Desired data includes: waste streams diverted; types of waste streams; quantities; and end use. Sources of data are scattered (regional or local level, among different departments, on individuals' devices). Data may be in different units (volume, weight, number of units). Data can be subject to changes or manipulation.

Brilliant idea. What about the accounting?

An example from the 1980s involved GE and manufacture of light bulbs. After stamping discs from aluminum sheets for the base of incandescent light bulbs, the company scrapped the remainder of the sheet. Engineers realized these sheets could be cut and used in furnace filters. This co-product generated revenues. In today's Sustainability reporting world, would this qualify as "diverted waste"? If so, how far back in the archives should companies go for data? For new efforts, how long should they apply?

There may not be a reliable roster of responsible parties. As a result, the company cannot be confident of obtaining data on the complete set of wastes being reused or recycling. Even more basic: Definitions can pose challenges for concepts where reporting has not been required. What is a "hazardous waste" – or a "waste"? What is "reuse" and what is "recycle"? Does this vary by jurisdiction, or by the subjectivity of responsible parties at different locations?
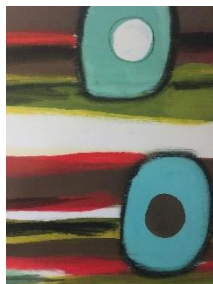
Companies may have to start from scratch to obtain quality data. Identify responsible parties and sources of data. Create definitions, communicate them to appropriate parties, and ensure they are understood and adopted. Offer mechanisms to collect and report data internally. Embed quality control features into data gathering processes. Leverage existing monitoring efforts (site inspections, internal audits) and expand as appropriate. Consider segregation of duties where appropriate, especially when compensation includes an element related to recycling performance.

An assurance engagement or audit will focus on the design of processes to collect data; and if the data is complete, accurate and verifiable. Is it <u>right?</u>

Data Analytics

As an author of COSO's "Achieving Effective Internal Controls over Sustainability Reporting (ICSR)[3]", I advocate discussions among people who know "internal controls" – and those who don't (at least, not by that name). Compliance officers, controllers, and their key internal business partners are in the first cohort. The second cohort includes Environmental, HR, Operations, Procurement, Safety and Sustainability – all the groups that provide data and information for Sustainability reporting.

<u>Waste diverted from disposal for reuse or recycling.</u>

After selection, development and deployment of internal controls, Acme is now confident that data for this parameter is complete, accurate and reliable. It is quality data. But what does the data mean? Consider data analytics scenarios below.

- The quantities of waste diverted from disposal varies widely among facilities. There are significant variations according to:

    o   Absolute total quantities

    o   Percentage of specific waste streams diverted

    o   Quantities, relative to total production

- The activities performed to achieve waste diversion vary across sites.

- Compliance specialists note that some wastes being diverted are restricted, and should not be diverted to the ruse as reported.

Effort to pursue reasons for variations could lead to changes that can further reduce costs or achieve efficiencies.

- The company can share practices among facilities to identify and divert waste streams more consistently across the company.

- The company could identify wastes generated in one jurisdiction where end uses are not available, and other jurisdictions where outlets for diversion are available.

- The company can focus on waste streams diverted in the highest quantities, and pursue options to improve operations and avoid generating the waste in the first place.

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[3] Link to this resource is in a fly-in at www.douglashileman.com or at www.coso.org.
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TAKEAWAYS AND TIPS

Quality data alone will not yield these insights, but the insights depend on having quality data. Data sets used for analytics may be for the same parameter over time, the same parameter in different departments or companies, or data sets that do not appear to be related. At the outset, the analyst doesn't know what s/he will find – that's the point. Analytics can help management discern what the data means. What are root causes of problems? Should performance indicators be adjusted? Do results of analytics suggest opportunities for more efficient operations, or revenue growth?

Douglas Hileman Consulting LLC (DHC) offers tips for anyone involved with Sustainability data collection or reporting.

1. Begin by ensuring data quality.

2. Perform data analytics – early and often.

3. Consider different data sets: similar parameters across the enterprise; similar parameters arising from different companies or scenarios; parameters that may not appear to be related, especially if different functional groups are responsible for generating and maintaining the data.

4. Consider a broad range of "ripple effects" of data correlation or trends.

5. Where data suggests inconsistencies, troublesome trends, or concerns, pursue root causes of the data sets.

6. Be brave. Be playful. Data analytics won't always yield correlations, trends or opportunities. But you'll never find them if you don't try.

7. Where data analytics identifies weaknesses in data quality, make these improvements. Follow all standard document control procedures. If (when?) audited, highlight that this represents strong monitoring, identification of deficiencies, improvements, and greater reliability of the data.

8. Remember, data analytics can do more than improve operational results. It can help save the planet.

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