Sustainability: Data Quality or Data Analytics? What's the Diff? Safety as Example topic

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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. Let's illustrate the difference using safety 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.

[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 waste as an example.

Lost-time Injuries from Employes and Key Contractors

OSHA requires reporting of lost-time injuries incurred by employees. Systems and controls are mature, and likely trustworthy. Key contractors likely also have robust controls for gathering data for OSHA reporting.

However, contractors may be unaccustomed to providing this data to other parties. Customers may request different slices of this data: for business segments the company uses (the road construction segment of a general contractor) or the safety statistics from the contractor while they worked on the client site. Companies may get different types of data from their contractors, regardless of how clearly they defined their request. Some contractors may not respond at all, leaving gaps in data. Their reasons are varied: limited resources; unavailability of data; or the contractor's view that the data is business confidential. The reason doesn't matter: the company cannot get complete, accurate data.

The data quality originating "within the four walls" of the company is very good for compliance purposes. The company may not have good controls to tailor this data to customer or stakeholder needs. The data quality of data needed from contractors or third parties may be fine – or lousy. The company may not know if data from these parties is reliable.

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.

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

Lost-time Injuries from Employees and Key Contractors

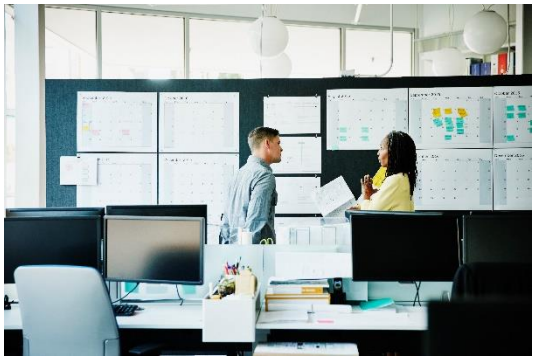
Suppose Acme Company reports a lost-time injury rate[4] of 4.5 for their employees. This data is submitted to OSHA. Acme has demonstrated commitment to data quality by hiring competent staff, developing and deploying controls, and using technology to track incidents and injuries.

For as long as companies have been submitting data to OSHA, there's a lot they don't know. This parameter is ripe for data analytics.

- If the average rate in the sector is 1.8, then Acme could be the least safe company to work for. This can affect attraction and retention of employees, employee development, workers' compensation insurance premiums, and reputation. Analysts can rate Acme low [OSHA reporting is public record], influencing investment decisions.
- The rate is 6.0 for contractors working at their locations. When contractors experience lost-time incidents, this can lead to delays in their work. This can result in cost overruns, scope changes, and impairments to operations.
- Suppose Acme's costs for overtime pay have risen by 50% over three years, with costs correlating with safety incidence rates. Acme may have forfeited customer rebates for not shipping products early. Correlation would suggest that further effort may be worthwhile to identify and address root causes.

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?



[4] Total number of injuries per 200,000 hours worked (typical for 100 employees for one calendar year).

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

1. Perform data analytics – early and often.
2. Consider data sets for similar parameters across the enterprise.
3. Consider data sets for similar parameters arising from different companies or scenarios.
4. Consider internal data sets for parameters that may not appear to be related, especially if different functional groups are responsible for generating and maintaining the data.
5. Consider a broad range of "ripple effects" of data correlation or trends.
6. Where data suggests inconsistencies, troublesome trends, or concerns, pursue root causes of the data sets.
7. 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.
8. Track outcomes, including efficiencies, effectiveness, and financial impact (cost reductions, improved sales) when the result of data analytics leads to improvements.
9. Toot your own horn.
10. Remember, data analytics can do more than improve operational results. It can help achieve a safe workplace. Everyone goes home exactly as awesome as they were when they came to work.