Why Data Needs Management: Why Software Isn’t Enough

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The proliferation of software solutions for Environmental Data Management has given data collectors and users a false sense of security. While software is an essential part of centralized data management solutions, the human element is no less critical to the success of the organization. Removal of human oversight and interaction with data streams may result in errors and liabilities that are discovered after data have already been reported or, worse yet, used by decision makers.

Environmental Data Managers develop processes that allow early identification of data issues and red flags that software solutions alone may not detect. In association with recent coal ash and Coal Combustion Residuals regulations, organizations are required to generate large amounts of data, and to analyze data trends over time to determine potential remedial impacts. Reliably assessing the quality of those data is critical, as companies rely on the data to make important environmental and financial decisions.

Tenured Environmental Data Managers leverage software to coax meaning from the data and to help subject-matter experts and decision makers “ask the right questions” and present data reliably and effectively.

DATA MANAGEMENT VS DATA MANAGEMENT SOFTWARE

Software is designed to allow complex data sets to be presented in a non-complex way. Both relational and non-relational databases are used by developers to provide stored data with integrity and security. However, the average data user accesses the stored data, using reports, charts, and views, with limited understanding of the data structure behind it.

Data Managers are the liaison between software and user. Their role is to understand the software structure, including the maintenance of established integrity and security, and also to assist users in the creation and retrieval of data reports.

Without this liaison, data users are left to flounder when reports produce unexpected results.

LEVERAGE THE SOFTWARE – DEVELOP BUSINESS PROCESSES

By utilizing the standard data management lifecycle, shown below, Data Managers help data users leverage software to develop effective and sustainable business processes.
Each data management lifecycle component corresponds with a business process component.

**Data Management - Business Processes**

- **Create**
  - Implementation & Migration Plans
  - Data Delivery Specifications

- **Process**
  - Deliverables Tracking
  - User Permissions

- **Analyze**
  - Automated vs Manual Review
  - Report Design and Usability

- **Preserve**
  - Information Technology
  - Database Auditing

- **Reuse/Archive**
  - Retention Policies/Legal Hold
  - Logistical Concerns

Well-trained Data Managers align the data management lifecycle with business processes to ensure that not only database integrity, but also environmental and financial integrity are enforced.
CONCLUSION

While software is a necessity in the management of data, the human element must not be ignored. Without the oversight, intervention and planning of Data Managers, errors and misinterpretations may result.