Transforming Through Data:

* **data monetization** - acknowledging that data is an asset, the expectation is that data to bring economic benefits.

Examining the Broader Value of Data:

* **data democratization** - the ability of team members to access data that they need for their work, without having to rely on specialists.

**As organizations grow and more systems are employed, eventually no single person knows what data is available and where it is in the enterprise. Without this knowledge, the ability to properly govern your data and leverage its value is greatly hampered. Without deliberate actions, data democratization becomes elusive.**

* **A data silo** is a data repository controlled by an entity in an organization but not frequently shared or known by other parts of the business.
* Data silos hinder business efficiencies because they reduce collaboration and increase data inconsistencies. In addition, they are a source of risk, including security and regulatory issues.

**Data governance** helps eliminate unnecessary data siloes and makes data discoverable and available whenever and wherever it adds value.

**Data catalogs** - are an essential way that data governance can help solve these limitations.

**Knowing what data is available is essential for the following reasons:**

* Better informed decision-making.
* Ensuring compliance and regulatory requirements.
* Lower costs by avoiding duplicate system and data efforts.
* Improved data analytics and reporting.
* Higher performing systems.
* More efficient operations.
* Reducing data inconsistencies across the enterprise.

**Data Catalogs:**

The three essential benefits of data catalogs are:

* **Finding data:** Helps users identify and locate data that may be useful.
* **Understanding data**: Answers a wide variety of data questions such as its purpose and who uses it.
* **Making data more useful:** Creates visibility, describes value, and provides access to information.

What makes a data catalog particularly valuable is that it contains data about the data. It’s called **metadata.**

A data catalog can contain three types of metadata:

1. **Technical metadata**: Data about the design of a data set such as its tables, columns, file names, and other documentation related to the source system.
2. **Business metadata:** Organizational data such as a business description, how it is used, its relevancy, an assessment of data quality, and users and their interactions.
3. **Operational metadata:** Data such as when the data was last accessed, who accessed it, and when was it last backed up.

Examples of metadata :

* Associated systems.
* File names.
* File locations.
* Data owners.
* Data descriptions.
* Dates created.
* Dates last modified.
* List of database tables and views.
* Data stewards.
* Size of data sets.
* Quality score.
* Comments.

With a data catalog, an organization can:

* Know what data it has (and by extension, know what data is missing).
* Reduce data duplication.
* Increase operational efficiencies and innovation.
* Understand data quality.
* Manage compliance.
* Enjoy cost savings from improved operations.

Unlocking Data Silos With a Data Catalog:

* Insight provides a deep understanding of something and is the ultimate positive manifestation of data.

Acquiring and applying insight from data means defining the following:

1. **Contex**t: Understanding the environment and objectives of the outcome
2. **Need**: Determining how insight will help to accomplish the objective
3. **Vision**: Having ideas about how insight will help and what that might look like in practice
4. **Outcome:** Specifying how insights will be adopted and success will be measured

Data Analytics:

The source of data for analytics is one or a combination of the following:

1. **First-party data:** Data that an organization collects.
2. **Second-party data:** Data that is obtained from another organization.
3. **Third-party data:** Aggregated data obtained from a provider.

Typical uses of contemporary data analytics tools and techniques include:

1. Vastly improved decision-making
2. Focused marketing campaigns
3. Understanding the competitive landscape
4. Designing more innovative products
5. Better customer service
6. Improved operations
7. Insights on customer behaviour

Data Monetization:

* data falls into the same category as assets such as copyrights and software.
* **data valuation** - the value of a given data set may be highly subjective and may differ considerably between the perspectives of team members.
* **data monetization** - When data provides an economic benefit to an organization.
* Data valuation is a requirement for advanced data monetization such as selling or licensing data.

**Methods to determine data valuation.**

**Cost value method:** Value is calculated by determining how much it costs to produce, store, and replace lost data. It’s a simple method and can be useful as a lightweight approach, but it is subjective and doesn’t necessarily account for the economic value that the data can produce.

**Market value approach:** Value is calculated by researching how comparable data is being priced in the open market. It’s a great approach if market-based comparable data exists but doesn’t work for the vast number of data sets that are not traded.

**Economic value approach:** Value is calculated by measuring the impact a data set has on the business’s bottom line. It’s a difficult approach because it may be nearly impossible to identify the specific value of the data relative to other contributors of value.

**With-and-without method:** Value is calculated by quantifying the impact on cash flow if a data set needs to be replaced. Scenarios with and without the data are explored and the difference between cash flow is used to determine data value. Like others, this can be challenging to pinpoint the specific impact of a data set.