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ALLEANTIA: THE BENEFITS OF DATA INTEGRATION

Data integration is a fundamental process **for managing data** in a company, for example, **the manufacturing industry.** It involves combining data from different sources into a single system to create a complete and accurate source of information.

The **data integration** process can be used for a **wide range of purpose**s, including business reporting, data analysis, master data management, and the creation of data management systems.

Data integration solutions **can be used to eliminate data duplicatio**n, improve information accuracy, and increase efficiency in data analysis and utilization.

There are several techniques, or guidelines, used for data integration including:

- the use of a Data Warehouse;
- the creation of a data mart;
- the creation of a data management system;
- the creation of a data integration system.

In addition, data integration systems can be used to create a comprehensive view of business data throughout its lifecycle, which can help make informed business decisions.

In general, **data integration should be an essential process for data management in an enterprise** and can help improve information accuracy, increase efficiency in data analysis, and make informed business decisions. As the amount and complexity of data increase, data integration becomes increasingly important for today's companies.

Approaches: data lake and data warehouse

The two main approaches to data management **are the data lak**e and the **data warehouse.** In the past, it was common to create separate data silos for each business function, but with the rise of big data, this traditional approach has become obsolete for data management.

The data lake is an unstructured data storage syste Tm that collects and stores all data generated by the company, both internal and external, in an unstructured manner. This allows data to be stored efficiently and used for different purposes, such as data analysis and reporting.

The data warehouse, on the other hand, **is a computer repository** that collects data from the company's internal operating systems and integrates it with data from external sources. The data must be structured, that is, represented by describable relationships with rigid tables and diagrams.

In general, both methods have their advantages and disadvantages, and the choice depends on the company's specific needs and integration tools.

Data integration is a crucial process for innovative companies that want to improve decision-making and increase competitiveness. In practice, data integration involves gathering data from different sources, cleaning, mapping, and transforming it to provide a unified view to users.

There are **different types of data**, including:

- machine-to-machine (M2M) data;
- data generated from the interaction between people and devices;
- data from interactions between people on social media;
- public administrative data;
- enterprise data.

Approaches such as the data lake and data warehouse are used to manage these data. **The data warehouse is a computer repository** that collects data from the company's internal operational systems and integrates it with data from external sources.

The data lake is an unstructured data storage system that allows data to be stored in a native format, without the need for a predefined structure.

ETL process

Data integration allows information to be extracted from the sources and deposited in a data warehouse, through the **ETL (extract, transform, and load)** process. This allows different data sources to be made consistent and transformed into useful information for analysis and business intelligence. Without data integration, it would be difficult to generate reports since it would be necessary to access different accounts and sources and perform data cleansing and reformatting, before large volumes of data could be analyzed.

What data integration means

Companies adopt data integration to improve their ability to analyze and leverage information, especially in the cloud and big data. **This process enables them to improve decision-making and increase competitiveness.**

The data integration process generally consists of a master server that collects data from various internal and external sources, combines it into a logical and unified format, and sends it to the client. This makes it possible to create **data lakes and data warehouses**, which integrate multiple data sources into a relational database, making it possible to process queries, reports, analysis, and search for information in a consistent format. Data integration also enables the data warehouse to make high-level summary information accessible, so that the alignment matches perfectly.

What data integration is good for

Data integration eliminates the need to manually capture data, from business processes, and reduces the risk of errors and subsequent processing through real-time data. **This improves data quality and accuracy** and simplifies analysis processes. In addition, automation saves time by eliminating the need to start from scratch for each report or application development and by enabling real-time reporting.

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The project Piattaforma India has been promoted by UCIMU – Association of Italian Machine Tools Manufacturers and AMAPLAST – Italian Plastics and Rubber Processing Machinery and Moulds Manufacturers Association. The two associations agreed on the idea that promoting a network of associations and entrepreneurs who have developed knowledge and experience on the Indian market, can be useful in favoring of new paths of development for business. The Indian companies who are interested to form JV, cooperation, technical tie up, purchase machinery etc from/with Italian companies can contact below mentioned address for any assistance:

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