BIG DATA – THE NEW CURRENCY OF THE DATA WORLD

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Annotation
The article discusses approaches to understanding кwhy big data is changing the business world and how companies can benefit from it.

Keywords: Big data analytics, business process, structured data, social media data usage, efficientая dataprocessingand analysis.

Introduction

In a world where data is the new currency, big data is a real pot of gold. From social media likes to smart city sensor data, incredible amounts of data are generated every second, which companies and organizations can use to generate valuable information and insights. Big data has changed the way we do business, the way we make decisions, and even the way we perceive the world around us. But what is big data?. Big data is very large amounts of data that are too large, too complex, or too fast to be processed using traditional methods and tools. The most important characteristics of big data are described by the following characteristics. These are:

Volume. Big data involves huge amounts of data, usually taking up terabytes, petabytes, or even exabytes.

Speed: Big data is usually generated in real-time or near-real-time and needs to be processed quickly to get valuable information.

Diversity: Big data can come from many different sources, such as structured data (such as databases), unstructured data (such as text, images), or semi-structured data (such as JSON, XML). The diversity of data requires special technologies and methods for efficient processing and analysis.

Reliability. The reliability and quality of data depends on whether the data reflects the intended measurements or estimates and whether they are accurate.

Value: Value that can be obtained by leveraging new insights from data, such as making better decisions and improving business performance.

Variability. Data variability refers to changes and fluctuations in data that can be complex.

Validity (relevance): accuracy and relevance of data for the relevant use case.

Instability. Instability refers to the variability of data over time and, therefore, the possibility that data will become stale or invalid. Visualization: the ability to transform large amounts of data into attractive and easy-to-understand visual formats to represent complex relationships and facilitate decision-making. There are various technologies for processing

big data, and as the amount of data is growing rapidly every day, the available technologies are also rapidly evolving.

Where does the data come from?

Big data data comes from different sources and can have different formats and structures. Some of the main sources of big data are:

Companies and Organizations: Companies and organizations collect and store data about their customers, products, processes, and business activities. This data can come from transaction data, customer reviews, social media interactions, sensor and device data, log files, and many other sources.

Social network. Social media platforms like Facebook, Twitter, Instagram, and LinkedIngenerate large amounts of data, including posts, comments, likes, reposts, hashtags, and other interactions. IoT devices. The Internet of Things (IoT) consists of connected devices such as sensors, machines, and other devices that collect and transmit data about their environment and state. Public data: Public data sources such as government data, research data, and other databases can also be important sources of big data. Web and mobile applications. Web and mobile apps generate data about their users, their interactions, and their behavior. This can include data from web analytics tools, search queries, click streams, GPS data, and many other sources.

What is Big Data analytics?

Big Data analytics is the process of collecting, processing, analyzing, and interpreting large and complex amounts of data to generate valuable information and make informed decisions. The latest technologies and tools, such as data mining, machine learning, artificial intelligence, and statistical analysis, are used to identify and understand trends, patterns, and relationships in data. Big Data analytics enables companies and organizations to make informed decisions by providing them with insights into their business processes, customer behavior, market conditions, product development, and more. Thus, analytics are used in various industries, such as healthcare, retail, banking, energy, telecommunications and transportation, to improve operational efficiency or customer satisfaction in order to maximize profits and develop competitive advantages.

There are 3 main types of big data analysis:

Descriptive analytics: a summary of historical data that shows the current state and trends.

Predictive analytics: An analysis that makes predictions about future events based on historical data and statistical models.

Prescriptive Analytics: An analysis that uses data to identify trends and patterns and provide recommendations for future decisions and actions.

Applying Big Data Analytics

Big data analytics can be applied in many industries, different fields, and for different purposes. Some examples:

Finance. In the financial industry, big data analysis is often used to identify and minimize risks, detect and prevent fraud, and improve the efficiency of business processes. Thus, big data can help, for example, in assessing the creditworthiness of customers. Other examples include analyzing transaction data to identify potentially unusual activity, or using social media data to understand customer sentiment and adjust your marketing strategy.

Retail trade. In retail, big data analysis is often used to understand customer purchasing behavior, optimize inventory and supply chain, and create personalized offers and marketing campaigns. Examples include analyzing sales data to predict demand for specific products, or using location data to optimize ad campaign placement.

Healthcare. Healthcare uses big data analysis to improve the quality of patient care, reduce costs, and support the development of new drugs and treatments. Examples of this include analyzing electronic health records to improve treatment outcomes, or using genomic data to support the development of personalized medicines.

Public administration. In public administration, big data analysis is used to improve the efficiency of public services, promote citizen participation, and support decision - making. Examples include analyzing traffic data to optimize traffic flows, or using environmental data to monitor and improve air quality.

Media and entertainment. In the media and entertainment industry, big data analysis is commonly used to increase audience retention, optimize content development, and measure ad performance. One example is analyzing audience data to understand audience preferences and give you recommendations based on their preferences.

Conclusion

The term "big data" includes not only a huge amount of data, but also the technologies and tools needed to process and analyze this data. This data has a huge potential, so your analysis can bring competitive advantages to a wide range of companies in different industries. In a world where data is the driving force behind innovation and growth, big data is crucial to the success of companies and organizations. Only if they can collect large amounts of data, analyze it, and extract valuable information from it will they be able to make faster and more accurate decisions and optimize their business processes.

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