A STUDY ON BIG DATA & ANALYTICS

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Abstract:

Big data and analytics have revolutionized the way businesses operate, from understanding customer behavior to streamlining internal operations. This paper explores the concept of big data, its importance in today's business landscape, and how analytics can be used to extract valuable insights from it. We also examine the challenges associated with big data analytics and some of the key technologies and tools used to overcome them. Our analysis suggests that big data and analytics will continue to shape the future of business, making it essential for companies to invest in the necessary infrastructure and talent to stay competitive.

Keywords:

Big Data, Analytics, Technologies, Processing

Introduction:

The advent of big data has transformed the business world, enabling organizations to collect and analyze vast amounts of data from various sources, including social media, sensors, and other digital channels. Big data refers to the large volumes of structured and unstructured data that organizations collect and analyze to gain insights that can inform decision-making. The ability to analyze big data has become a strategic priority for businesses, as it provides valuable insights into customer behavior, market trends, and internal operations.

Importance of Big Data Analytics:

Big data analytics has several benefits, including improved decision-making, enhanced customer experiences, and increased operational efficiency. Analytics can be used to identify patterns and trends in large datasets, providing insights that can inform business strategy. For instance, retailers can analyze customer data to identify trends in purchasing behavior, enabling them to offer personalized recommendations and improve customer experiences. Similarly, healthcare providers can use big data analytics to identify patterns in patient data, leading to more accurate diagnoses and improved treatment outcomes.

"Big Data is an evolving term that describes any voluminous amount of structured, semi-structured and unstructured data that has the potential to be mined for information". In simple words, Big Data is a pure technological term. Big Data is often characterized by 3Vs:
(1) Velocity,
(2) Variety and
(3) Volume.

"Hadoop is an open-source software framework for storing data and running application on clusters of commodity hardware. It provides massive storage for any kind of data, enormous processing power and the ability to handle virtually limitless concurrent tasks or jobs". He covered five digital forces namely:
• Big Data Analytics
• Cloud Computing
• Social Media
• Robotic Process Automation(RPA)