Phenomena of Big Data and Big Data Analytics

Big Data is not just a technological trend; it reflects broader phenomena that are reshaping how societies, businesses, and consumers interact in the digital age. The explosion of connected devices, the ubiquity of social media, and the increasing reliance on digital transactions have created a world where every action generates data. For managers, understanding these phenomena and the role of Big Data Analytics is crucial to navigating the complexities of the modern business environment.

Key Phenomena of Big Data

1.
Platforms like Facebook, Instagram, and Twitter generate billions of interactions every day. Likes, shares, comments, and hashtags form a massive pool of consumer sentiment and preferences.
Example: Nike leverages social media data to identify emerging trends in fitness and sportswear. By tracking hashtags and influencer content, it can release targeted product lines that resonate with younger audiences.

2. Internet of Things (IoT)
Connect
Example – Philips Healthcare: By connecting medical devices to IoT systems, Philips monitors patients remotely and uses predictive analytics to detect early signs of health deterioration.

3. Open Data and Public Sources
Governments and institutions are increasingly making datasets available to the public. These can be used by businesses for research, innovation, and improving public services.
Example – Transport for London: By making travel data open, TfL enabled apps like Citymapper to provide real-time route suggestions, benefiting millions of commuters.

4. Consumer Awareness and Data Consciousness
Consumers today are more aware of how their data is collected and used. Rising concerns over privacy and misuse push companies to adopt transparent practices.
Example – Apple: Apple emphasizes privacy as a key selling point, marketing its devices as secure alternatives in a world of increasing surveillance and data misuse.

Big Data by itself has limited value. The true power lies in analytics—the methods used to convert raw data into actionable insights. Analytics typically falls into three categories:

1. Descriptive Analytics – What happened?
It summarizes historical data to understand trends and patterns.
Example – Starbucks: Uses descriptive analytics to understand which products sell best in specific locations and times of day.

2. Predictive Analytics – What will happen?
It uses statistical models and machine learning to forecast future events.
Example –: Prediction

3. Prescriptive Analytics – What should we do?
It goes beyond prediction to recommend specific actions for optimal outcomes.
Example – Delta Airlines: Uses prescriptive analytics to optimize flight scheduling and crew allocation, reducing delays and improving efficiency.