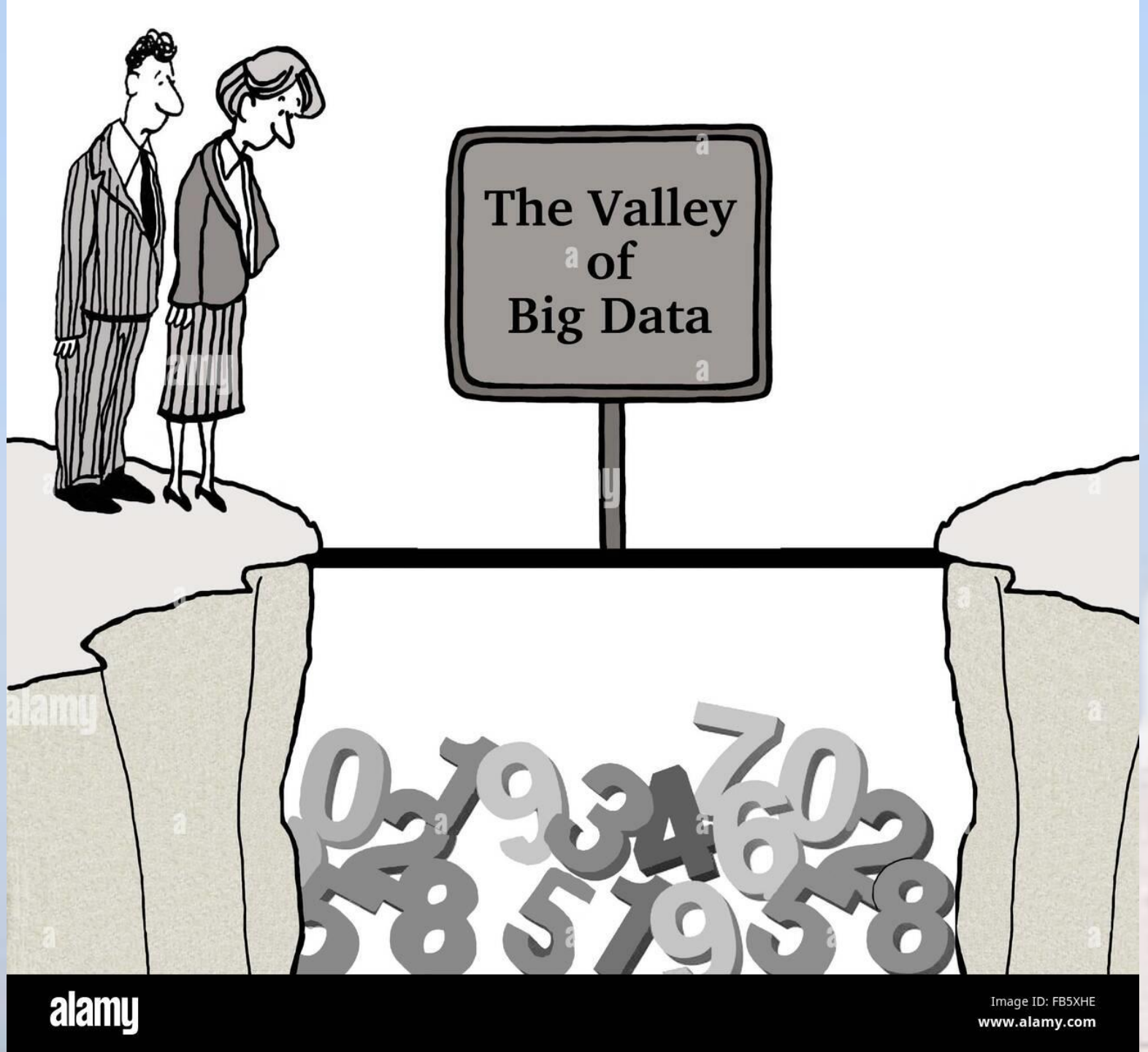
॥ त्वं ज्ञानमयो विज्ञानमयोऽसि ॥
IIT Jodhpur

Excellence above all
SME

Technology • Innovation • Leadership

Big Data Use Cases

Dr. Deepak Saxena, SME IIT Jodhpur



Operations

- Predictive and preventive maintenance
  - Potential issues can be discovered by analyzing both structured data (equipment year, make, and model) and multi-structured data (log entries, sensor data, error messages, engine temperature, and other factors).
- Operational Efficiency
  - Analyze and assess production processes, proactively respond to customer feedback, and anticipate future demands.

Marketing and Retail

- Product development
  - By classifying key attributes of past and current products and then modeling the relationship between those attributes and the commercial success of the offerings, you can build predictive models for new products and services.
- Customer Experience
  - By gathering data from social media, web visits, call logs and other company interactions, and other data sources, companies can improve customer interactions and maximize the value delivered.
  - Big data analytics can be used to deliver personalized offers, reduce customer churn, and proactively handle issues.
- Reduce Customer Churn
  - By analyzing the data about service quality, convenience, and other factors, companies can predict overall customer satisfaction. They can set up alerts when customers are at risk of churning—and take action with retention campaigns and proactive offers.

Marketing and Retail

- Customer Lifetime Value
  - Big data provides you with insights on customer behavior and spending patterns so you can identify your best customers.
  - Such customers need to be treated with special care.
- In-store shopping experience
  - Many retailers are starting to analyze data from mobile apps, in-store purchases, and geolocations to optimize merchandizing encourage customers to complete purchases.
- Pricing Analytics
  - Price optimization and discounting.

Big data sources for customer data

- Visits to your digital platforms: websites, apps and kiosks'.
- Interactions with customer support: phone, email, online chat, etc.
- Social media, including direct messaging, tweets, and posts on accounts you own, or they own.
- Records of physical movement, including store videos and movement logs
- Additional sensor data from sensors, RFID tags, personal fitness trackers, etc., which may provide data such as bio-medical readings, accelerometer data, external temperature, etc.

Healthcare

- Genomic Research
  - Researchers can identify disease genes and biomarkers to help patients pinpoint health issues they may face in the future.
  - The results can even allow healthcare organizations to design personalized treatments.
- Patient Experience and Outcomes
  - With big data, healthcare organizations can create a 360-degree view of patient care as the patient moves through various treatments and departments.
- Pandemic Management
  - detection of existing cases, prediction of future outbreak, anticipation of potential preventive and therapeutic agents, and assistance in informed decision-making
- Claim Frauds
  - For every healthcare claim, there can be hundreds of associated reports in a variety of different formats.
  - Big data helps healthcare organizations detect potential fraud by flagging certain behaviors for further examination.

Financial Services

- Fraud and compliance
  - Using big data, companies can identify patterns that indicate fraud and aggregate large volumes of information to streamline regulatory reporting.
- Risk modelling
  - Financial services companies can bring together a large volume of data, create advanced risk models, and do this quickly without adversely affecting other projects.

At least so far, it is still BIG Data