

Chapter 78

Data Management and Big Data Analytics: Data Management in Digital Economy

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ABSTRACT

The internet is creating 2.5 quintillion bytes of data, and according to the statistics, the percentage of data that has been generated from last two years is 90%. This data comes from many industries like climate information, social media sites, digital images and videos, and purchase transactions. This data is big data. Big data is the data that exceeds storage and processing capacity of conventional database systems. Data in today's world (big data) is usually unstructured and qualitative in nature and can be used for various applications like sentiment analysis, increasing business, etc. About 80% of data captured today is unstructured. All this data is also big data.

INTRODUCTION

Day by day the big world of internet is creating 2.5 quintillion bytes of data on regular basis according to the statistics the percentage of data that has been generated from last two years is 90%. This data comes from many industries like climate information collects by sensor, different stuff from social media sites, digital images and videos, different records of purchase transaction. This data is big data. The big data is the data that exceeds storage and processing capacity of conventional database systems. Data in today's world (Big Data) is usually unstructured and qualitative in nature that can be used for various applications like sentiment analysis, increasing business etc. About 80% of data captured today is unstructured and is being collected from various sources like sensors which are used to gather climate

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information, posts on various social media websites like tweets from twitter, Digital pictures and videos uploaded on various websites like Facebook, Purchase transaction records and other similar data. All this data is also Big Data.

The systematic study of Big Data can lead to:

- Understanding target customers' better – Big data is used by business today for analyzing sentiments of the target customers and providing them better services to increase the business.
- Cutting down in expenditures in various sectors – Analysis of such huge volume of data has also helped business in cutting down their expenditures in various sectors wherever possible. Several billions of dollars being saved by improvements in operational efficiency and more.
- Increase in operating margins in different sectors – Big Data also helps industries in increasing operating margins in different sectors. With the help of Big Data, lot of manual labour can be converted into machine task and this helps in increasing operating margins.

Big data is a technology to transform analysis of data-heavy workloads, but it is also a disruptive force. It is fuelling the transformation of entire industries that require constant analysis of data to address daily business challenges. Big data is about broader use of existing data, integration of new sources of data, and analytics that delve deeper by using new tools in a more timely way to increase efficiency or to enable new business models. Today, big data is becoming a business imperative because it enables organizations to accomplish several objectives:

- Apply analytics beyond the traditional analytics use cases to support real-time decisions, anytime and anywhere
- Tap into all types of information that can be used in data-driven decision making
- Empower people in all roles to explore and analyze information and offer insights to others
- Optimize all types of decisions, whether they are made by individuals or are embedded in automated systems by using insights that are based on analytics
- Provide insights from all perspectives and time horizons, from historic reporting to real-time analysis, to predictive modelling
- Improve business outcomes and manage risk, now and in the future

Big data Use cases are:

1. IOT
2. Advertising analysis
3. Predictive Analysis
4. Customer churn Analysis
5. Aadhar project by govt of India
6. Telecom fault detection
7. Natural resource exploration

There are four major categories of big data.

1. Transactional & Application data

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