

ASSIGNMENT 4: BIG DATA USE CASES

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BIG DATA USE CASES

Abstract

In recent years, there has been an immense increase in understanding the insights on how to improve the financial and overall growth of a company using the Big Data. Organizations can access more data today than ever before. But it's of no value unless the big data is put to work. In many realms like Social-media, Medical, Sales/Marketing, Politics etc the big data is implemented to learn, analysis, research and improve the standards & quality.

Big Data Use Cases

PS: Find an example of each of the following Big Data use cases:

1. Social media
2. Medicine and health
3. Scientific research
4. Sales/Marketing
5. Politics

For each example, explain the Big Data characteristic(s) involved (the "Vs")

Reasoning:

In many areas such as social media, medicine, sales / marketing, and politics, big data is used to learn, analyse, research, and improve its standards and quality. The immense data generated, gathered, and confined by these areas are analysed using the Big Data technologies to predict the near future, by which the effective measures are taken to reduce the financial burden and increase more profits.

Below are few of the Big Data use cases: -

a. Social Media

Social media has changed the way we live. From the way we receive our news to the way we interact with our loved ones. Social media is everywhere. It's inevitable, it's powerful, and it's here to stay. Since 2004, the social network has grown exponentially and has yet to reach its peak in popularity. There is no denying that social media platforms are now a major source of news and information. But that's not all. Social media platforms are unique in the way they interact with customers. Not only do they provide a platform for users to communicate across local and social boundaries, but they also offer endless opportunities to share user-generated content like photos and videos.

~ Reference from <https://www.oberlo.com/blog/social-media-marketing-statistics>

Few of the Big Data use cases in social media: -

- The availability of data on consumers' web browsing, online shopping behaviour, customers' feedback and marketing research on social networks allow organisations to gain timely and extensive insights into consumers.
- Organisations can focus their market intelligence strategies based on different objectives such as advertising and product launches; publicity and brand management; promoting customer loyalty; providing personalised services to customers; keeping a tab on market trends and competitors; minimising risk; saving cost and business expansion in general.

Examples of the use cases: -

- Facebook: recently started to decode the content of photographs (identifying faces and objects) and video
- Apple: granted a patent to collect data on body temperature and heart rate through audio buds
- Google: tunes algorithms in language processing to be culturally relevant (for instance differentiating between American and British idioms) and improving its speech recognition capabilities

~ Reference from <https://www.cambridgeassessment.org.uk/Images/465808-big-data-and-social-media-analytics.pdf>

b. Medicine and health

Healthcare organizations are using big data for everything from improving profitability to helping save lives. Healthcare companies, hospitals, and researchers collect massive amounts of data. But all this data isn't useful in isolation. It becomes important when the data is analysed to highlight trends and threats in patterns and create predictive models.

Characteristics of Big Data in Healthcare and Medicine: -

- Big data can improve the bottom line. By analysing billing and claims data, organizations can discover lost revenue opportunities and places where payment cash flows can be improved. This use case requires integrating billing data from various payers, analysing a large volume of that data, and then identifying activity patterns in the billing data.
- Almost 60% of healthcare organizations already use big data and nearly all the remaining ones are open to adopting big data initiatives in the future
- Personalized treatment (98%), patient admissions prediction (92%) and practice management and optimization (92%) are the most popular big data use cases among healthcare organizations.
- Healthcare organizations plan to further expand their current big data usage with patient segmentation (31%) and clinical research optimization (25%).

~ Reference from <https://www.scnsoft.com/blog/big-data-use-cases-stats-and-examples#2>

Examples: -

- Arogya-Seth application collects the valuable information of Covid-19 affected patients for analysis and metrics, which predicts any upcoming affected cases in that area/place.
- Obama care collects the data from people for various beneficiary purpose.

c. Scientific research

Scientists all over the world are using the data for their research to advance the technology in many fields. Big Data promises to revolutionise the production of knowledge within and beyond science, by enabling novel, highly efficient ways to plan, conduct, disseminate and assess research.

~ Reference from <https://plato.stanford.edu/entries/science-big-data/>

Big Data use cases: -

- To predict the weather forecasting.
- To improve the technology
- With the Big Data Analysis, many archaeological monuments and items are discovered & categorised.

Examples: -

- Royal Dutch Shell, spends £650 million a year compiling big data across several sites so that they can more accurately predict presence of hydrocarbon resources at a site – this may help save them drilling costs (which for a single offshore drilling can cost up to £65 million)
- Citi, estimates targeted predictive analytics according to customer behaviour

~ Reference from

<https://www.cambridgeassessment.org.uk/Images/465808-big-data-and-social-media-analytics.pdf>

d. Sales & Marketing

The Sales and Marketing teams are benefited by the Big Data in making huge profits. Any new product released in the market is very well analysed to meet the requirements of the customers, which in turn increases the profits of the company.

Use Cases of Big Data: -

- Predicting the demands of customers
- Fraud or scam is minimised by use of Big Data
- Using Big Data, the product demand can be predicted

e. Politics

The demographics data collected by the government helps to understand the number of voters at various places. In recent years, there had been various campaigns that help in collecting the data of population. It also helps in the politics to know the opinions of the people to make any changes in the lifestyle and governance of people. Data in politics is not just a way to target ads. Because we are talking about more complicated transactions

than just selling a certain type of product with a unique value proposition, we must acknowledge that our data has much more than just “one-shot” value.

~ Reference from <https://medium.com/dataseries/data-in-politics-an-overview-a66f5464f38f>

Use Cases of Big Data: -

- Political data about the people, with which the trade and accumulation of voter’s information is made within parties and candidates.
- The User data collected from public and private sectors helps the politicians in canvassing various places.

Examples: -

- Mined about 18 terabytes of data of 810 million electorate during the general elections in India held in April to May 2014 on various demographics such as gender, age, and economic status for their client, a political party (Kurmanath, 2014).
- The Re-Elected President of America, Former President Barack Obama has benefited in the year 2012 by the data.

~ Reference from

<https://www.cambridgeassessment.org.uk/Images/465808-big-data-and-social-media-analytics.pdf>

References

What are the Big Data Use Cases. Article from Oberlo. Retrieved February 23, 2022, from <https://www.oberlo.com/blog/social-media-marketing-statistics> by Author 'Maryam Mohsin' 5 April, 2021.

What are the examples of Big Data use cases? Article from Cambridge Assessment. Retrieved February 23, 2022, from <https://www.cambridgeassessment.org.uk/Images/465808-big-data-and-social-media-analytics.pdf>

What are the examples of social media? Article from Oracle. (n.d.). Retrieved February 23, 2022, from <https://www.oracle.com/big-data/guide/big-data-use-cases.html>

Retrieved February 23, 2022, from https://www.microstrategy.com/getmedia/cd052225-be60-49fd-ab1c-4984ebc3cde9/Dresner-Report-Big_Data_Analytic_Market_Study-WisdomofCrowdsSeries-2017.pdf

What is Big Data use case for Politics? Retrieved February 23, 2022, from <https://medium.com/dataseries/data-in-politics-an-overview-a66f5464f38f>

What are examples for Scientific Research? Article from Stand-ford Education. Retrieved February 23, 2022, from <https://plato.stanford.edu/entries/science-big-data/>