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Article

The Big Data Concept

Josephine Ahulu

Transmission Planning Engineer

PhD Candidate in Engineering

University of the Witwatersrand, South Africa

Email: phinnahulu@yahoo.com

Tel: +233 24 4305236

Abstract

Enormous amounts of data are generated at high speeds by a variety of sources such as mobile devices, social media, machine logs, and multiple sensors surrounding us. All around the world, we produce vast amount of data, and the volume of generated data is growing exponentially at an unprecedented rate. The pace of data generation is even being accelerated by the growth of new technologies and paradigms such as Internet of Things (IoT).

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JOSEPHINE AHULU

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INTRODUCTION

Enormous amounts of data are generated at high speeds by a variety of sources such as mobile devices, social media, machine logs, and multiple sensors surrounding us. All around the world, we produce vast amount of data, and the volume of generated data is growing exponentially at an unprecedented rate. The pace of data generation is even being accelerated by the growth of new technologies and paradigms such as Internet of Things (IoT).

Big data is a blanket term for the non-traditional strategies and technologies needed to gather, organize, process, and gather insights from large datasets. While the problem of working with data that exceeds the computing power or storage of a single computer is not new, the pervasiveness, scale, and value of this type of computing has greatly expanded in recent years.

WHAT IS BIG DATA?

It is difficult to give an exact definition of "big data" as it is used differently in projects, by vendors, practitioners, and business professionals. With that in mind, big data can be said to be basically, large datasets. The definition of big data is hidden in the dimensions of the data.

Data sets are considered "big data" if they have a high degree of the following three distinct dimensions: volume, velocity, and variety. Value and veracity are two other "V" dimensions that have been added to the big data literature in

recent years. Additional Vs are frequently proposed, but these five Vs are widely accepted by the community and can be described as follows:

1. Velocity: the speed at which the data is been generated.
2. Volume: the amount of the data that is been generated.
3. Variety: the diversity or different types of the data.
4. Value: the worth of the data or the value it has.
5. Veracity: the quality, accuracy, or trustworthiness of the data.

Organizations deploy a new approach and tools in analytical aspects to overcome the complexity and massiveness of different types of data (structured, semi structured, and unstructured).

So, a sophisticated technique that aims to cope with the complexity of big data by analysing a huge volume of data is required to support organizations in innovation, productivity, and competition.

Big data analytics has been defined as techniques that are deployed to uncover hidden patterns and bring insight into interesting relations in understanding contexts by

examining, processing, discovering, and exhibiting the result.

Complexity reduction and handling cognitive burden in knowledge-based society create a path toward gaining advantages of big data analytics. Also, the most vital feature that led big data analytics toward success is feature identification. This means that the crucial features that have important affection on results should be defined.

In Ghana today, Big Data in organizations is an untapped resource despite its numerous benefits. Many organizations in different industries still struggle to reap the benefits of big data. The generation of huge data from different sources such as tablets, smartphones, sensors and the Internet have led to an overwhelming growth of unstructured data difficult to process with traditional technologies.

Many organizations have struggled to turn this data into information that guides decisions more effectively. On that note, big data is considered more a challenge than an opportunity for most business sectors as they fail to tap into its promised potential value. However, it is very

important for organizations to manage big data effectively to get the benefits which are not always obvious.

CONCLUSION

Big data is a broad, rapidly evolving topic. While it is not well-suited for all types of computing, many organizations are turning to big data for certain types of workloads and using it to supplement their existing analysis and business tools.

Big data systems are uniquely suited for surfacing difficult-to-detect patterns and providing insight into behaviours that are impossible to find through conventional means.

By correctly implement systems that deal with big data, organizations can gain incredible value from data that is already available.

