Chapter 1
Big Data Challenges and Solutions in the Medical Industries

Ramgopal Kashyap
Sagar Institute of Science and Technology, India

Albert Dayor Piersson
University of Cape Coast, Ghana

ABSTRACT

Big data today is being investigated to find the bits of knowledge that prompt better choices and vital business moves. The data innovations are developing to a point in which an ever-increasing number of associations are set up to pilot and embrace big data as a center part of the data administration and examination framework. It is a range of research that is blasting yet at the same time confronts many difficulties in utilizing the esteem that information brings to the table. The battle against "spam information" and information quality is a pivotal issue. Big data challenges are discussed and some solutions are proposed because the volume of made information will surpass the capacity limits and will require cautious determination.

INTRODUCTION

The appearance of advances like versatile processing, distributed computing, web of things, sensor based systems and the accessibility of web in handheld gadgets has brought about an era of extensive measure of information, both organized and unstructured, which is called "Big Data". The chance of sorting out this extensive data into important and significant data is being acknowledged by businesses, associations and organizations. However, the test with huge information is that it is hard to deal with such substantial measure of information utilizing customary techniques (Nieddu, Boatto, Pirisi, & Dessì, 2010). New apparatuses, innovations, models and systems are utilized to deal with huge information. Hadoop is an

open source structure used for preparing enormous information. It is a noticeable disseminated stockpiling and figure condition which is utilized for putting away and preparing of enormous information. Enormous data is a monstrous accumulation of information which is created at an exponential rate in a wide assortment of organizations and has turned out to be difficult to deal with utilizing conventional information administration instrument (Karagiannis, & Buchmann, 2016). The hypothesis of huge information depends on five V's: Volume: Large volume of information produced each second by people, associations, machines, and so forth. Velocity: Speed at which information is being created. Variety: Various configurations in which the information is accessible content, sites, tweets, video, standardized tag, databases etc. Veracity: Correctness and exactness of information. Value: Insights or data that might be produced by applying examination on enormous information. The enthusiasm of associations in huge information has ascended because of the esteem it might create for their organizations and explores (Dinov, 2016). Associations need to grow, settle on better business choices and make new items and administrations; enormous information assumes a noteworthy part in this. With a lot of information spreading over from client purchasing patterns, to twitter tweets, the information holds important data. Appropriate extraction and breaking down of this information may uncover bits of knowledge in future and help associations take gainful business choices or make significant insight (Carter, 2012).

Big Data Analytics (BDA) is the way toward applying progressed logical methods to vast shifted informational collections to accumulate bits of knowledge and find concealed examples that may help examiners, organizations and analysts in settling on speedier and better choices. Customary examination manages organized, value-based information gathered over a timeframe, in information stockrooms for performing Business Intelligence (BI). A BI expert concentrates on discovering patterns, producing reports and visual examination of information. In BDA, information researchers, prescient modelers and different investigation experts examine huge volumes of value-based, and also, information of different structures, gathered from various sorts of sources that may stay undiscovered by traditional business knowledge programs (Nieddu, Boatto, Pirisi, & Dessì, 2010). These information shapes incorporate web server logs, web click stream information, and web-based social networking content, interpersonal organization action reports, patient's human records, content from client messages, overview reactions, cell phone call detail records, and machine information caught by sensors associated with web of things. Figure 1 shows all basic V's required for Big Data and BDA can be performed on various information like, content, picture, snaps, logs and web journals to uncover bits of knowledge about behavioral examples of clients/customers, enhancing execution, taking brilliant business choices, anticipating future qualities, avoiding infections, battling wrongdoing, decreasing cheats, and moderating dangers.

Speedier, better basic leadership with the speed of Hadoop and in-memory examination, joined with the capacity to investigate new wellsprings of information, organizations can dissect data quickly and settle on choices in light of what they have realized. New items and administrations with the capacity to gage client needs and fulfillment through examination comes the ability to give clients what they need. Davenport brings up that with enormous information investigation, more organizations are making new items to address clients' issues. Today, different business and in addition open source apparatuses, such as IBM BigInsights, SAP Hana instrument, Oracle Big Data Appliance, Pivotal Big information suite, Lumify, Apache Storm, RapidMiner, etc. are accessible to perform diverse sorts of examination on Big Data.

Related Content

Women in Computer Science in Afghanistan
Eva Maria Hoffmann (2012). *Computer Engineering: Concepts, Methodologies, Tools and Applications (pp. 1840-1854).*
www.igi-global.com/chapter/women-computer-science-afghanistan/62548?camid=4v1a

Open Source Software Adaptation in Africa: Is a Matter of Inferior or Cheap Is Not Quality?
Abubakar Diwani Bakar, Abu Bakar Md. Sultan, Hazura Zulzalil and Jamilah Din (2018). *Computer Systems and Software Engineering: Concepts, Methodologies, Tools, and Applications (pp. 1708-1722).*
www.igi-global.com/chapter/open-source-software-adaptation-in-africa/192942?camid=4v1a

Introduction to SDN and NFV
Himanshu Sahu and Misha Hungyo (2018). *Innovations in Software-Defined Networking and Network Functions Virtualization (pp. 1-25).*
www.igi-global.com/chapter/introduction-to-sdn-and-nfv/198191?camid=4v1a

Quality-Driven Database System Development Within MDA Approach
Iwona Dubielewicz, Bogumila Hnatkowska, Zbigniew Huzar and Lech Tuzinkiewicz (2018). *Computer Systems and Software Engineering: Concepts, Methodologies, Tools, and Applications (pp. 623-656).*
www.igi-global.com/chapter/quality-driven-database-system-development-within-mda-approach/192896?camid=4v1a