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Big data analysis: Changing the way

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Abstract
The concept of utilization of data for creating business values is not new; only the way of working out the effective use of data is changing with the competition. Processed data called information has always wanted by organizations to make better, real and technology based movements. One of these changing movements includes big data, big data analysis and its tools. Big data analytics is the process of explore large data sets to come across hidden patterns, correlations, trends, customer interests and other useful business information. Present study is mainly based on the secondary data and is explanatory and conceptual in nature. Big data analysis has huge scope in various fields of India.

Keywords: Big data, big data analysis, strategy, innovation, Hadoop software

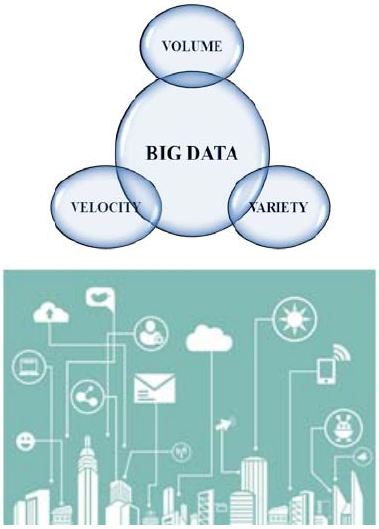
1. Introduction
The concept of utilization of data for creating business values is not new; only the way of working out the effective use of data is changing with the competition. Processed data called information has always wanted by organizations to make better, real and technology based movements. Technological advancements create new platforms and large volumes of data available to businesses. One of these changing movements includes big data, big data analysis and its tools. Businesses that effectively draw information from their data will prolong to have distinctive plus over their rivals.

In the very beginning of the 21st century, big data starts its roots; and the first organizations to start it were online and startup firms. Companies' like Google, eBay, LinkedIn, and Facebook were collecting big data from the beginning. But the position of large business houses is different. They have to integrate their offline and online data; and need big data analytics software and personnel for this.

Big data analytics is the process of explore large data sets to come across hidden patterns, correlations, trends, customer interests and other useful business information. Big data analytics helps in other fields too, e.g., in science, medical science, government etc. The diagnostic findings can direct to more valuable marketing, opportunities, better customer relationships, improved operational efficiency, spirited reward over competitors and other industry profit.

Big data analysis could help businesses to employ the information generated through analysis for developing new products and offering new services. At present many online firms are using this approach for improving their services.

2. What is Big data?
Big data is a term that describes the large volume of data. But it's not the amount of data that's important. It's what organizations do with the data that matters. Big data can be analyzed for insights that lead to better decisions and strategic business moves. Nature of big data could be easily made clear by the following figures.



Big data is a term for data sets that are so large or complex that traditional data processing applications are inadequate to deal with them. Data sets are growing rapidly in part because they are increasingly gathered by cheap and numerous information-sensing mobile devices, aerial (remote sensing), software logs, cameras, microphones, radio-frequency identification (RFID) readers and wireless sensor networks (Hellerstein, J.). The world's technological per-capita capacity to store information has roughly doubled every 40 months since the 1980s; as of 2012, every day 2.5 exabytes (2.5×1018) of data is generated. One question for large enterprises is determining who should own big-data initiatives that affect the entire organization. (Wikipedia)

Big data is different from Relational database management system (RDBMS). Big data have text, audio, video; image but RDBMS have only texts. Execution of RDBMS requires large simultaneously software running on related servers. Instead 'big data' varies a lot depending on the requirements and skills of users and devices use by them. And the businesses need to capture and examine the pattern of information that such data carry. Analysis of such data can

help businesses to better understand the business problems and opportunities and helps in taking good decisions for business improvement. Big data analytics is the process of collected, organizing and analyzing large sets of data (called big data) to discover patterns and other useful information.

3. Definition

The term has been in use since the 1990s, with some giving credit to John Mashey for coining or at least making it popular. Big data usually includes data sets with sizes beyond the ability of commonly used software tools to capture, curate, manage, and process data within a tolerable elapsed time. Big data "size" is a constantly moving target, as of 2012 ranging from a few dozen terabytes to many petabytes of data. Big data requires a set of techniques and technologies with new forms of integration to reveal insights from datasets that are diverse, complex, and of a massive scale. (Wikipedia)

In a 2001 research report and related lectures, META Group (now Gartner) analyst Doug Laney defined data growth challenges and opportunities as being three-dimensional, i.e. increasing volume (amount of data), velocity (speed of data in and out), and variety (range of data types and sources). Gartner, and now much of the industry, continue to use this "3Vs" model for describing big data. In 2012, Gartner updated its definition as follows: "Big data is high volume, high velocity, and/or high variety information assets that require new forms of processing to enable enhanced decision making, insight discovery and process optimization." Gartner's definition of the 3Vs is still widely used, and in agreement with a consensual definition that states that "Big Data represents the Information assets characterized by such a High Volume, Velocity and Variety to require specific Technology and Analytical Methods for its transformation into Value". Additionally, a new V "Veracity" is added by some organizations to describe it, revisionism challenged by some industry authorities. The 3Vs have been expanded to other complementary characteristics of big data:

- Volume: big data doesn't sample; it just observes and tracks what happens
- Velocity: big data is often available in real-time
- Variety: big data draws from text, images, audio, video; plus it completes missing pieces through data fusion. (Hilbert,2015)

4. Working of big data analysis

For analysis of such a big volume of data, specialized software tools and applications are used. Such software has tools for forecasting analytics, data mining. These softwares help a business to analysis the data they gathered and to drive better forecasts. Big data have connection sensors, cloud computing, memory, correlation content, a sharing community and customer's values. Big data tools such as Hadoop software and cloud computing help in cost reduction in storing of big volume of data. In fact, various big organizations observe Hadoop as an economical alternative for the archival and quick retrieval of large volume of historical data. Hadoop brings speed and makes business organizations to analyze information quickly.

5. Applications of big data analysis

Big data has increased the demand for big data analysis specialists. It helps government to make better policies, cost reduction, check on corruption and find out innovative ideas. In manufacturing, it helps in finding out information on demand and supply, product quality. In healthcare works well for dogmatic analytics, clinical research, reporting patient data. Besides these there could be very innovative uses of big data analysis in the fields of education, banking, retail management, international developments, research activities and better ideas could be generated for advancement of the business as well as country.

6. Challenges in Big Data Analysis

From the above discussion, big data analysis has lot of uses and advantages to business organizations. Still, for many organizations, it is a challenge. Big data challenges could include a huge amount of data, various formats of the data, contains latest technology. Other challenges include analysis, confine, data curation, search, sharing, storage, transfer, visualization, querying, updating and information privacy. For coping such issues businesses require more skilled employees and platforms having capital issues.

7. Conclusion

Summarizing, Big data analysis is a new concept, gaining ground very rapidly. Online firms starts using it in very beginning of the concept and other companies starts taking initiative in it to stay in the competition. Analyzing big data allows business users to make better and faster decisions using data that was previously difficult to get. Big data analysis has shown various points to get favor for it. It helps in science, academic, research, business, health science, international development, business as well as in government. They are in a hostile way for making plans to get benefit from the big data analysis. Various policy issues are framed out in developed countries for betterment. Science and businesses are looking forward in this area. In future, India could also take steps for better policy formulation, for legal enactments, for infrastructure improvements and for innovations.

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