

Chapter 89

Big Data in Social Media Environment: A Business Perspective

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ABSTRACT

Information technology has reached its pinnacle, with the era being dominated by two hi-tech driving forces - Big data and Social media. Big data encompasses a wide array of data mining workloads, extracted through various sources, the results of which are of keen interest to business leaders and analysts across every industry segment. Data from the social media is exploding at an exponential rate and is being hailed as the key, to crucial insights into human behavior. Extracting intelligent information from such immense volume, variety and velocity of data, in context to the business requirement is the need of the hour. Therefore, new tools and methods specialized for big data analytics is crucial, along with the architectures for managing and processing such data. Big data complemented with Social Media offers a new horizon to take management practice to an advanced level.

INTRODUCTION

Today social media has become the most effective means of networking and hobby of any human being. With the proliferation of smart devices and services extended by social networks, it is gaining importance and attracts people in large numbers. The interaction between human beings via social media is a potential source of unstructured, finer-grained and larger-scale digital data. The term “Big data” is pervasive and includes huge quantities of data, social media analytics, next generation data management capabilities, real time data and much more. It is also the shorthand for advancing trends in technology that open the door to a new approach to understand the latest trends and making intelligent decisions (Schroeck, Shockley, Smart, Morales & Tufano, 2014). Most of the Big data surge is wild and contains words, images, video or a combination of these. It is exploding and is bound to grow at a faster pace in the years to come. Though only a few percentage of this data is used effectively, business leaders claim

DOI: 10.4018/978-1-5225-1837-2.ch089

that data obtained from social media is of immense support in making intelligent decisions. Tools are being developed to excerpt data derived from social media to gauge consumer behavior and turn it into active information. This chapter provides an insight into big data derived from social media, analytics and its consumption from a business perspective.

THE BIG DATA

Big data is the term which refers to a collection of data so large and complex that cannot be processed using existing database management tools or traditional data processing applications. The procedures and processes for capture, curation, storage, search, sharing, transfer, analysis, and visualization are different for big data (Fonseca & Boutaba, 2015). The term was coined to describe the exploding growth of data observed in the order of zetabytes, that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions (Stawski, 2015). This data comes from everywhere: sensors used to gather information, posts and responses in social media sites, multimedia contents, online purchase transaction, and cell phone signals to name a few. The click of a mouse, a keystroke or a single touch on the mobile screen contributes to the big data. Therefore in the digital space, consumers, suppliers and organizations are creating and consuming vast amount of information. Gartner predicts that enterprise data in all forms will grow 650 percent over the next five years. IDC enterprise data growth stat envisages that the world's volume of data doubles every 18 months. This flood of big data is a golden goose for business leaders over which they can build their business architecture and marketing strategy. The real challenge lies in harnessing this data for various applications using advanced tools and techniques.

Gartner's definition of the 3V's is still widely used to define the characteristics of big data. Big data represents the information assets characterized by high Volume, Velocity and Variety (De Mauro, Greco & Grimaldi, 2015). The 3Vs can be expanded as:

- **Volume:** Data is available at a larger scale in the order of Terabytes or petabytes.
- **Velocity:** big data is often available in real-time and the rate at which it grows is very high.
- **Variety:** big data draws from text, images, audio, and video and completes missing pieces through data fusion (Hilbert, 2016).

The source of Big data can be broadly classified into three categories:

- **Data Streams:** Activity generated or process mediated data from Computers and mobiles such log files, sensor data, location tracking, data generated by processors etc.
- **Social Networks:** Human sourced information- Eg. Data from sites such as Google+, Facebook, YouTube, Twitter, LinkedIn, blogs, WhatsApp, Instagram, Pinterest etc.
- **Public Domains:** Data that is publicly available on the Web. Eg. Government portals, Wikipedia, The World Bank, SEC/Edgar, Microsoft Azure MarketPlace/ DataMarket.

Of these social media has become an addiction and the main communication network in the daily lives of people around the world. It generates insurmountable data that reflects the day-today emotions and is authentic and real-time. Big data from social media is a natural resource that comes in various types and

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