Increased awareness of the power of big data and related analytic capabilities to gain competitive advantage and to improve operational efficiencies has made big data a practical reality.

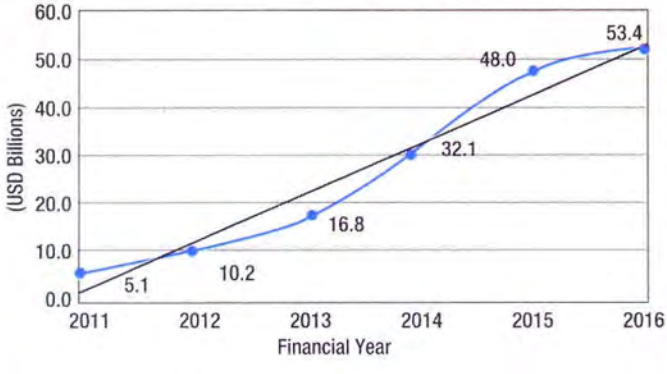
Set to Explode

The explosion of data volume, coupled with the emergence of unstructured and semi-structured data sources, is changing the landscape of business intelligence. The number of devices capable of generating data streams – smartphones, embedded devices, network equipment, and human facing applications – is blowing up. Organizations have increasingly been looking for solutions to monetize 100 percent of their data.

The digital universe is estimated to produce 35 ZB of data by 2020, with 80 percent of the growth coming from unstructured data such as audio, video, and email; machine-generated data from a multitude of sensors; and data from external sources such as the Internet and social media. To retrieve real business value from the humungous amount of data, enterprises need the right tools to capture, organize, process, and analyze the data meaningfully.

Big data analytics breaks down huge amounts of data to uncover hidden patterns, unknown correlations, and other useful information, which can provide organizations with competitive advantages and result in business benefits such as more effective marketing and increased revenues. Until the advent of big data analysis techniques, unstructured and semi-structured information was not considered to be a part of mainstream data analysis, which used to be limited to structured data.

Big Data Market Forecast (*2011-16*)



Market Opportunities

The big data market is on the verge of a rapid growth spurt, and is expected to achieve USD 50 billion globally within the next five years, according to Wikibon. It is estimated at USD 5 billion as of early 2012 based on related software, hardware, and services revenue.

Pure-play vendors accounted for USD 480 million in revenue, and despite their relatively small percentage of current overall revenue, vendors such as Vertica, Splunk, and Cloudera are responsible for the vast majority of new innovations and modern approaches to data management and analytics. The major players in the enterprise industry, namely IBM, Intel, HP, Oracle, Teradata, Fujitsu, Verint, Amdocs, Datamatics among others, account for 95 percent of the overall revenue.

Many new pure-plays are expected to enter this flourishing market. Having made significant acquisitions of inde-

pendent pure-plays in 2011, the big vendors are expected to continue its M&A growth strategy until the market matures and settles down. Each and every big data pure-play is supposed to be potential acquisition target of megavendors IBM, Oracle, HP, and EMC, among others. The market is forecasted to experience significant consolidation within the next three-to-five years. The acquiring vendors are expected to allow pure-plays to continue operating and innovating as largely independent entities, or risk stifling the very innovation that is fueling the big data market's tremendous growth.

For organizations that understand and embrace the new reality of big data, the possibilities for new innovation, improved agility, and increased profitability are nearly endless. Increased interest in and awareness of the power of big data and related analytic capabilities to gain competitive advantage and to improve operational efficiencies, coupled with developments in the technologies and services that make big data a practical reality.

Market Innovations

Hadoop distributions. Cloudera and Hortonworks are responsible for majority of contributions to the Apache Hadoop project that is significantly improving the open source Big Data framework's performance capabilities and enterprise-readiness.

Next generation data warehousing. The three leading next generation data warehouse vendors – Vertica (acquired by HP), Greenplum (acquired by EMC), and Aster Data (acquired by Teradata) are upending the traditional enterprise data warehouse market with massively parallel, columnar analytic databases that deliver lightening fast data loading and near real-time query capabilities.

Big data analytic platforms and applications. Vendors are developing applications and platforms that leverage the underlying Hadoop infrastructure to provide both data scientists and business users with easy-to-use tools

"There is a strong latent demand for big data and analytics platforms in the Indian market. Some of the sectors that are likely to benefit immediately from big data adoption include computer and electronic products, financial and insurance, and government. In addition, healthcare and telecom sectors are also likely to benefit a lot from big data.

For instance, in healthcare services delivery, management of chronic or long-term conditions is expensive. Use of in-home monitoring devices to measure vital signs and monitor progress is just one way that sensor data can be used to improve patient health and reduce both office visits and hospital admittance.

Manufacturing companies deploy sensors in their products to return a stream of telemetry. Sometimes this is used to deliver services like OnStar that delivers communications, security, and navigation services. Perhaps more importantly, this telemetry also reveals usage patterns, failure rates, and other opportunities for product improvement that can reduce development and assembly costs.

The proliferation of smart phones and other GPS devices offers advertisers an opportunity to target consumers when they are in close proximity to a store, a coffee shop, or a restaurant. This opens up a new revenue for service providers, offering a great chance to target new customers to a number of businesses.

Social media sites like Facebook and LinkedIn simply would not exist without big data. Their business models require a personalized experience on the web, which can only be delivered by capturing and using all the available data about a user or a member."

Mitesh Agarwal
Director-Solution Consulting,
Systems Business,
Oracle India

"Every sector, which has access to large data sets, is set to benefit. The telecom, financial services, healthcare, and digital media services are some of the sectors that have large consumer database. These sectors are using big data to gain valuable insights about their various processes and for the betterment of their services.

The telecom sector is leveraging big data in revenue assurance and price optimization, customer churn prevention, campaign management, call detail records (CDR) analysis, and network performance.

The financial services sector is using big data for compliance and regulatory reporting, risk analysis, fraud detection, CRM, customer loyalty programs, credit scoring, and trade surveillance.

Healthcare and pharmaceutical sectors use big data for campaign and sales program optimization, patient care quality and program analysis, supply chain management, drug discovery, and development analysis. While these sectors have been the early adopters of the Big Data technology, even others are expected to follow suit.

Securing various data sets, estimating the size of deployment while dealing with unknown volumes of data, consolidating various types of data, and managing streaming speed are a few areas of concern while handling big data."

Munwar Shariff
Chief Technology Officer,
CIGNEX Datamatics