

Is "Big Data" on the Disruption Curve?

The IT landscape is changing at a faster pace than ever before. With more and more people spending much of their existence in the digital world – whether it is for work, play, learning, or to socialize – the amount of data being generated is truly astounding. Thinking about the number of SMS messages and emails sent, phone calls placed, and Facebook updates made every minute, it boggles the mind how much data is traversing networks around the world. The emergence of technologies like Big Data, Mobile, Social, BYOD, Cloud and machine-to-machine communication, etc in the last couple of years has altered the way we use technology to work, do business, manage our personal lives or even make our choices. Ashok Shenoy, Regional Manager, Cloud and Datacenter Sales, Cisco India & SAARC, explains, "With ever-increasing number of people, businesses, and devices connected to the Internet, there is a massive increase in the volume of both structured and unstructured data. The



Ashok Shenoy - Regional Manager, Cloud and Datacenter Sales, Cisco India & SAARC "The emergence of Big Data and analytics has proved beneficial to intricate and complicated data."

emergence of Big Data and analytics has proved beneficial to comprehend such intricate and complicated data. Big Data like other disruptive technologies like cloud computing, mobile technology, social technologies has already started to revolutionize industries and the way IT infrastructure is deployed."

In today's typical enterprise, there are three types of big data: business-, machine- and human-generated data. Given the variety of the three types of big data, most enterprises start by extracting, normalizing, and filtering the data so it can be queued and distributed to the right application for analysis at the right time, yet not in a standalone, siloed approach. Once the data is loaded into the appropriate analytics platform, enterprises can gain business insight and results in a timely fashion. The challenge here is to address the trends in the most cost-effective manner and to be innovative, and it matters because failing

to address these trends will leave businesses unable to compete. "Microsoft provides an opportunity to businesses to drive their IT on their own terms to address the trends and manage their cost as per requirement," retorts Srikanth Karnakota, Director – Server and Cloud, Microsoft.

However, these new technologies are somewhere "disrupting" traditional enterprise technology architectures and forcing organizations to do away with, or re-model their legacy systems to keep pace with the changing times. A recent example of a technology disruption is how Red Hat Enterprise Linux operating platform fundamentally disrupted the Unix market by introducing free open-source software running on commodity hardware that could replace proprietary systems at a fraction of the cost. Shedding more light on this, Amit Chatterjee, Country Director – Software, HP India, says, "A disruptive technology is a technological innovation, product, or service that eventually



Srikanth Karnakota, Director Server and Cloud, Microsoft - "Microsoft provides an opportunity to businesses to drive their IT on their own terms to address the trends."



Amit Chatterjee, Country Director-Software, HP India - "A disruptive technology is a technological innovation, product, or service that eventually overturns the existing dominant technology."



Hemal Shah, CIO, Dell India - "Social Media when it was launched was disruptive."



Sundar Ram, Vice President, Technology Sales Consulting Oracle Corporation, Asia Pacific - "Enterprises can also no longer ignore the adoption of technologies like BYOD, mobile and social at work place."



Srinivas Tadigadapa, Director - Enterprise Sales, Intel - "South Asia "We need to look at disruptive technology not in terms of the technology in itself, but the impact that it creates."

overturns the existing dominant technology or product in the market." Technology Disruption is something that actually is a game changer for consumers, something that drives a new wave for doing things, improves efficiency and makes people's lives much better. Srinivas Tadigadapa, Director - Enterprise Sales, Intel - South Asia says, "We need to look at disruptive technology not in terms of the technology in itself, but the impact that it creates."

On the other hand, Hemal Shah, CIO, Dell India, opines, "Anything that challenges the status quo, any technology that solves an existing problem in the most simplistic way for the benefit of users can be called as disruptive. Social media when it was launched was disruptive, in the sense that it has enabled people to socialize using the electronic medium."

Shah further adds that Cloud Computing / Software-as-a-Service are some more areas that he can call disruptive. These technologies are changing the way people run IT and manage IT applications providing maximum benefit for the end-users.

According to a recent report four disruptive technologies - mobile internet, cloud, the internet of things and automation of knowledge work - will drive India in the coming years. Besides these, the Big Data revolution is expected to continue to disrupt established industries and current business models. It is becoming increasingly mainstream as businesses realize its benefits, including improved operation efficiency, better customer experience, and more accurate predictions. "Enterprises can also no longer ignore the adoption of technologies like BYOD, mobile and social at a workplace. In this ever-connected world, these technologies help improve efficiency, offer work flexibility to employees and simplify business processes. Cloud has emerged out of the shadows and is offering a cost-effective means for enterprises to adopt new technologies based on a 'rent and not buy' model," said Sundar Ram, Vice-President, Technology Sales Consulting,

Oracle Corporation, Asia-Pacific.

In very simple terms, Big Data technologies have a unique opportunity to understand the gigantic volumes and different kinds of digital data that are created and make sense out of it, i.e. derive value from it for better decision-making and predictability. The applications of Big Data are diverse and can be far-reaching - from understanding customer spend patterns in retail shopping to developing more precise drugs based on patient's profile. The disruptive power of Big Data can, however, be fully realized only if the network bearing the gigantic data sets also advances at the same pace and enables Big Data solution performance.



Currently, the factors driving the big data market are financial trading, analysis of online customer behaviour, media research and social media. The skills, practices and tools currently viewed as big data solutions will persist, as the leading organizations will have incorporated the design principles and acquired the skills necessary to address big data concerns as routine flexibility in the future.

Big Data Vs Bad Data

Every technology has "the good, the bad

and the ugly" side to it. Big Data technology today makes it possible to collect massive scales of digital information about people around the world and zero down on what they are doing at a particular point in time or go to the extent of even knowing what they are thinking based on the analysis of their past behaviour. Adding more to this, Jagjit Arora, Director - Regional Sales, Red Hat India, says, "While the objective of Big Data is mainly to offer intelligence that can be used to customize solutions and offerings to suit real customer's requirements, Big Data also offers the potential to be misused by people and institutions which can manipulate findings to suit their cause. Big data can also be overwhelming, given the large amount of data being generated and collected, which can become a huge cost without an equivalently large benefit."

There is a constant reference to the term Big Data today and it is primarily because of the various modes by which the data is being generated today vis-à-vis a couple of decades ago. Data in the world is doubling every 18 months. A key challenge facing organizations of any size in any industry is managing and analyzing the soaring quantity of data and harnessing that information to improve the business. IT is challenged by the high costs associated with the purchase and maintenance of hardware needed to accommodate large data volumes, while business users need quick, often real-time access to analyze this information in order to respond to ever-changing market conditions.

On the one hand, detailed analysis of data is helping progress in areas like biomedical and clinical research. On the other hand, use of the technology for unauthorized surveillance on citizens, or intrusive marketing campaigns has come in for severe criticism. It is important that applications of Big Data are sensitive to the needs to preserve their privacy. Throwing more light on this, Edgar Dias, Regional Director for India, Brocade, explains, "The applications of Big Data are diverse and can be far-reaching - from understanding customer spend patterns



Edgar Dias, Regional Director for India, Brocade - "The applications of Big Data are diverse."



Anil Khatri, Head (South Asia), Global IT-client technology and Field IT, SAP India - "Data can then be used to improve customer experience, reduce operational expenses, reduce exposure to fraud and proactively introduce new services."



Abhijit Chatterjee, CTO, C-Zentrix - "There are organizations that help other industries by providing intelligent informative outcomes of the prediction/ trend."

in retail shopping to developing more precise drugs based on patient's profile. The disruptive power of Big Data can, however, be fully realized if the network bearing the gigantic data sets also advances at the same pace and enables Big Data solution performance."

Today, nearly all organizations are looking for ways to capture and store the data, make it readily accessible, to classify the data in a format which helps them to cater to specific customer segments, helps them in their research and innovation or in formulating business strategy and decision making. For this, customers need to adopt a new approach to Data Warehousing and Business Intelligence – one that enables them to analyze data from any source in real time to determine actionable patterns and trends. "This is absolutely essential as this data can then be used to improve customer experience, reduce operational expenses, reduce exposure to fraud and proactively introduce new services allowing customers to monetize their data assets," explains Anil Khatri, Head (South Asia), Global IT – Client Technology and Field IT, SAP India.

Remedies to Big Data Problem

As per the industry estimates, enterprise data is growing nearly 60 per cent per year and 90 per cent of that data is unstructured. The growth of high-volume, low-density data has outstripped the capacity to provision and operate the required IT infrastructure in an efficient manner. The data deluge is making it difficult for businesses to locate relevant information, analyze and use this information in real time. Enterprises are limited by existing infrastructure and data architectures. Most businesses lack enterprise-ready statistical analysis tools to make real-time analytical decisions as well as a user interface that provide actionable information. They need tools not only to manage new types of data but also circumvent challenges around some of the softer issues such as the quality, privacy and security of the data.

To address these issues, CIOs need to recognize that they can't drive big data with the same cost economics as they do for the

regular business data. They must evolve their IT infrastructures to handle the rapid rate of delivery of extreme volumes of data, with varying data types, which can then be integrated with an organization's enterprise data to be analyzed. They also have to be ready to look at the data needs and decide on a few things like potential sources, processing those data streams, storing in persistent storage and the kind of analytical tools to



Jagjit Arora, Director – Regional Sales, Red Hat India - "Big Data also offers the potential to be misused by people and institutions who can manipulate findings to suit their cause."

use based on which they need to decide the balance of investments in storage, processing power and software. Shah from Dell India adds that the biggest challenge is to get the right information in the hands of decision-makers and the shortage of big data skill set and a trained workforce.

In addition to this, the system should be able to handle processes related to data acquisition, data organization and data analysis. When compared to traditional infrastructure for analytics, the biggest change in a Big Data ecosystem is in the data acquisition phase from multiple sources. The infrastructure required to support the acquisition of big data must deliver low, predictable latency in both capturing data and in executing short, simple queries. It should be able to handle very high

transaction volumes, often in a distributed environment, and support flexible, dynamic data structures. So it is extremely important to know what to omit, what not to and what algorithms to choose. "Since it is a very involved activity, not all organizations or corporations can do it for themselves. So organizations should keep themselves updated about who is offering what. However, they should not totally depend their decisions on predictable data," explains Abhijit Chatterjee, CTO, C-Zentrix.

From a vendor's perspective, Dell's view is that data should be at the right place, at the right time and at the right cost. Through the expanded Big Data analytics platform and portfolio, HP is delivering the necessary solutions to handle the growing volume, variety, velocity and vulnerability of data that can lead to Big Data failures. HP's new Big Data Analytics platform, HAVEN, leverages HP's analytics software, hardware and services portfolio, combining proven technologies from HP Autonomy, HP Vertica, HP ArcSight and HP Operations. As far as Microsoft is concerned, it provides an opportunity for businesses to use familiar technology and tools in order to structure the data and make sense out of it. Big data with Windows Azure takes about 15 minutes to set up without hampering productivity of a firm. With Microsoft Excel, a tool that most employees use almost every day at work, at the front-end Windows Azure allows the user to understand the data, carve out graphs, charts and also to perform data analysis.

At the end...

Businesses need to adopt a new approach to Data Warehousing and Business Intelligence – one that enables them to analyze data from any source in real time to determine actionable patterns and trends. This is absolutely essential as this data can then be used to improve customer experience, reduce operational expenses, reduce exposure to fraud and proactively introduce new services allowing customers to monetize their data assets. ■

satinder@varindia.com