

“ Era of Business Intelligence : The BigData Way “

Author : Ramesh Chandra Pradhan,Symbiosis Institute Of Management Studies

Abstract

The quantum of data has exploded in the recent years because of changes in the business, societal transformations as well as increased reach of mobile telephony and internet. Big Data has certainly become an important driver for innovation and growth that depends on disruptive technologies such as Cloud Computing, Internet of Things, Business Intelligence and Data Analytics. It becomes very important now to

The challenge that each and every business today faces is to ensure that they are able to deliver high quality services and products along the lines of the fast growing number of users. Also providing protection of data to the clients and users is of paramount importance these days. Users want more personalised and responsive applications which match their needs. In this perspective, BigData is a key enabler for the provision of resources and insights anytime, anywhere.

BigData software and solutions generate value by supporting an innovative ecosystem and by enabling completely new solutions that have never been thought of before. Also as all technologies face challenges BigData has its own challenges. Adoption of BigData across all sectors of businesses remains to be seen as to how fast businesses apply it to their benefits.

If we look back at the last decade or so a lot has been happening in the information technology space, probably more than what has happened in the last three or four decades. Supposedly, we have entered an era of technology where data itself has not much of significance. What makes more sense is the insights that it gives us, to the clients, to the businesses. The times are changing fast, faster than ever. The size of data also is increasing by leaps and bounds. The amount of daily business transactions that are taking place today, have created a monster out of it. So the questions that lies ahead is what to do with such enormous amount of data? According to a research conducted by the TDWI in 2009, about 59% of the data warehouses (DWs) will be over 3Terabytes by 2012 and this assumption was quite close to the size of DWs that exist today. To take some meaning out of it what is needed is Business Intelligence, Data Analytics , probably the buzzwords these days along with the BI tools that are used like BigData – Hadoop, Tableau, Qlikview etc.

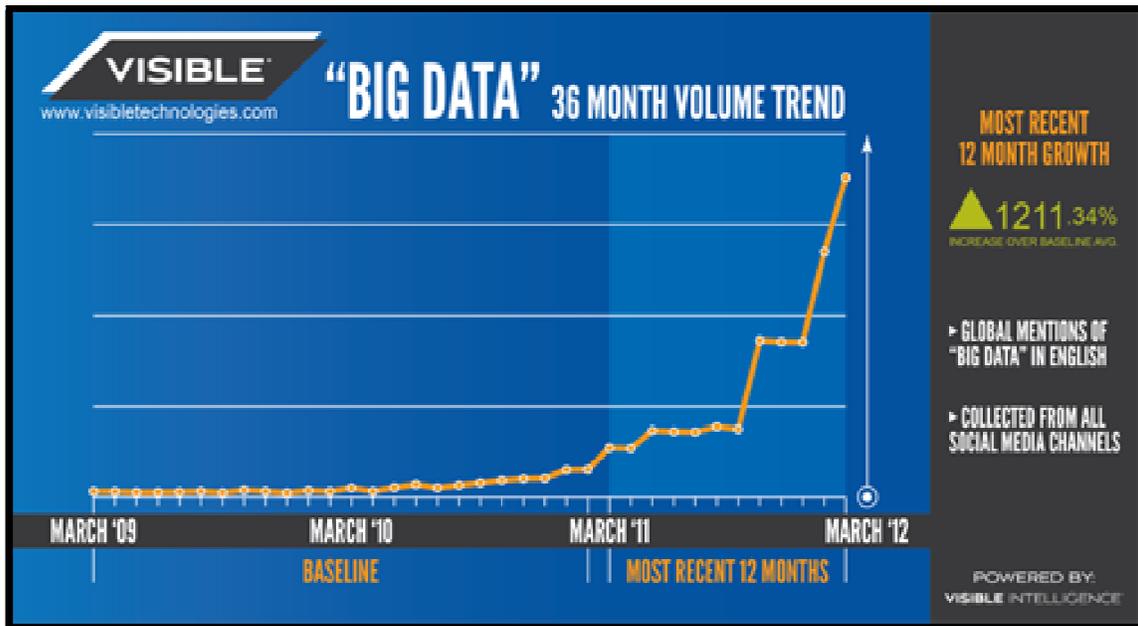
The sole reason of Business Intelligence coming into picture cannot be attributed to the data size alone. The primary reason being the functioning of businesses have changed over the years, they are becoming more result-oriented with competition increasing like never. The client diversity is increasing, customer demands are changing and so are the perspectives of the businesses. Apart from that, Business Intelligence provides better understanding of data which is of paramount importance before going ahead with data analytics. Data virtualization to data visualization, the businesses have changed the way they used to think earlier. The questions posed by the volume, velocity, variety and now veracity of data have been ever-changing and multifarious.

Business Intelligence brings a lot of perspectives to the table, some of which may be faster deployment, data visualization, data integration or interactive environment. From the 2-D figures that an office tool used to give we have moved to 3-D views, heat maps etc. The tools available in the market are many. You have MicroStrategy for creating dashboards, IBM Cognos for dashboards, Informatica for ETL (Extract, Transform and Load), SPSS for data analytics etc. You name the type of analytics required and you have a tool for it.

Business Intelligence has been evolving ever since it has emerged into the picture. Gone are times when arduous pre-conditions were set for performing any tasks. The insights that are derived from any type of data today has become very dynamic *per se*. Customer requirements are changing so are the business specifications and the targets to adhere to. And most essentially going by the current economic scenario and lot other concepts like crowd sourcing etc. coming into the picture the opportunities a plenty and the profits multi-fold. The striking fact of Business Intelligence tools is that they stay true to the original goal of ancillary decision making by turning data into insight. Business Intelligence projects in whatever verticals they might be demand faster deployment and faster results. This helps businesses to stay abreast with the competitive world and establish themselves as brands with on-time deliverability.

The other added advantage of Business Intelligence Tools is the cost-effectiveness that they bring to the table, like no other technology does. For example, a tool like Tableau

Software or R-Analytics can be installed and connected directly to any data source. Thanks to its spontaneous interface, one can start the process of finding insights straight away.



Source : <http://wikibon.org/blog/big-data-changing-the-business-frontier/>

Now when talking about Business Intelligence, it would be a gaffe not to give a due mention about BigData. In the last few decades in the Information Technology space if anything which has created a furore it is Big Data. The tremendous potential that this technology has got has changed the whole dimension of business like never. BigData as the name itself implies means data which is beyond measure, huge in size as compared to the traditional data that we normally come across. So what has made it all that important? So important that a company like Yahoo! was the first one to use this technology then Facebook and gradually other businesses too are following the suit. Many of the social media sites are turning into mass media, the biggest of them being Facebook of course with more than 1 billion users. Certainly, as firms go about their businesses and interact with individuals around the world to contribute to the amount of digital "exhaust data" i.e, data that are generated as a result of other actions. BigData unbelievably provides staggering numbers be it on the business-side or the consumer-side. And the other huge contributor to data are the handheld devices or the smartphones. With billions of devices being used, the data being shared is also huge. The bigger issue also here is that the data being generated is structured as well unstructured data. And it takes huge time and effort from data scientists to analyse and

process those data. So all in all, the possibilities of BigData continue to evolve each and every day, thanks to the constant innovation in the underlying technology, the mechanisms of businesses and the analytics associated with it. BigData continues to add value to businesses daily, the only concern being how smartly or how effectively it is being used.

The utilities of BigData are many and they'll keep on increasing. Some of them are personalization, Fraud management, predictive analytics etc. To provide customers a personalized experience what firms do is process consumer data using a BI tool from multiple touch points in real-time. This gives them a good experience and thus leads repeat purchase or customer retention. Also fraud management is an important issue these days with duplication of credit cards on the rise. So to counter this most of the multi-national banks have incorporated BigData in their day to day operations. Any faulty transaction happening in any area of a country can be detected and identified easily. This has led to the emergence of a new field of study called fraud analytics. Also a new study on analysing the customer's sentiment has emerged as companies seek to segregate their customers into different segments so that it'll be easier for them to design and innovate new products or services. This is called sentiment analytics which takes into account data mining for analysing huge amounts of data. Broadly they categorise the sentiment into three namely, good, bad and neutral. Slowly and gradually all companies are looking forward to incorporate BigData in their operations so as to get benefitted in a better way.

Apart from the above utilities BigData as a technology can be leveraged in governance as well. With various ministries of the government getting integrated to various other bodies or departments for strategic planning and proposals, the sources of information for the same will be multifarious and that obviously will be a tedious process. What BigData can do here is fasten up the process by compiling the data from the related sources for the planning to be done. And thus will filter the information required for decision-making to take place. For example, National Security Agency (United States of America) had a national surveillance program called '*Prism*' which was used to process and analyse tons of audio, voice chats, mails, images etc. for the purpose of cyber espionage. Apart from this there are other areas including: community welfare activities, setting political manifestos, setting up proper tax-payer database so as to catch hold of the tax-evaders and thus helping the Government in generating revenue properly. Since all these activities involve tremendous amount of data, a lot of

information can be derived out of it. For this all we need is an intelligent tool like BigData which can process the data and make meaning out of it. This will of course need people with much needed experience in BigData who have an understanding of what to look for. What government can do is employ such people in different sectors of its operations and make use BigData for efficiency in its day to day activities. But the big ask for government is how they can make them useful for the community as a whole.

We just can't neglect the impetus that Business Intelligence tools have given to the businesses. The growing need for the Business Intelligence Tools is a good indicator of the impact it has made to the businesses. As per the TDWI (The Data Warehouse Institute) data, the number of active users of BI tools grew from 18% in 2005 to 24% in 2009 which indeed is remarkable for a new technology as this, whose functionalities have been ever-changing since its inception in the early part of the last decade. The twitter hashtag analytics for example, has added a new dimension to Business Analytics by helping firms to get a glimpse of their products and services before and after the launch. This helps them to plan and strategize accordingly as in what is the thing to be leveraged upon, what needs to be changed or modified etc.

As they say, any effective marketing campaign is always backed by detailed analysis, strategy formulation and in-depth market research. And to make this possible requires a sound technology. But as businesses have started looking for the bigger picture, the need for a futuristic tool has taken paramount importance. All the companies looking for a top-line growth have started adopting BigData in their market-oriented activities. As small decisions lead to a chain of events that follow them, it's mandatory for every business to have a technology like BigData which not only helps in analysing the current market scenario but also gives a sneak-peak about the upcoming avenues or opportunities. If a business is able to generate actionable intelligence, that is delivered to the right people at the right time , it can gain a competitive advantage and may even transform the business. The best example of this could be a bank which wants to promote its m-banking application to its customers. The bank can promote this app by getting the data of the number its customers who use smartphones or tablets. This data can be easily taken from the telecom regulatory body along with their monthly data usage. Through profile targeting they can easily target the customers on the

basis of their likes and preferences. Accordingly the product or service can be designed as per the requirement of the targeted customer segment. So having BigData at the helm helps in deriving valuable insights which could lead to a better way of looking at the things.

Every technology has got challenges of its own, BigData is no different. Though most of those challenges are attributable to extraneous factors but still they need to be addressed as well. First, firms have difficulty in identifying the right data and how to use it in an optimal manner. Second, finding right talent for working on those technologies and interpreting data is also an uphill task for the companies. Third, access to those data and connectivity is also a major obstacle that companies face today. Without total access to the data it becomes cumbersome for the companies to perform analytics. Fourth, as mentioned earlier the fourth 'V' i.e, veracity is also posing a challenge as data from unknown sources require proper IT architecture which is flexible enough to adapt to the changes in data. Fifth, leveraging BigData across different functions of a business becomes all the more a difficult task as data is fragmented and unrelated across the organization. And lastly, when it comes to data access security concerns around the data disallows to take full advantage out of you.

The challenges will be there, but what is important for a business is how to tackle the same. Every challenge can be seen as an opportunity to improve. Whenever there is an issue related to the quality of data, the internal data can be combined with the external or third party data to increase the potential for additional insight. Also the storage of data is an important issue. If data is not stored properly it will just be a liability and might just get shared with some competitors which will further cause problems for the business both in the short-run as well as long-run.

Not for nothing, the experts have declared data analytics to be the premier profession of the 21st century. The implications here are manifold, the changing face of the global economy that we're witnessing is something to ponder upon. But then Business Intelligence is here to stay, if at all, it'll keep adding new dimensions with time. The Tableaus, the MicroStrategies will keep on emerging, smarter and faster with time. But then the big question that lies ahead is "to what extent? ". Will they be able to handle the *tsunami* of data

that the unforeseen future will bring? Is it high time to look beyond BigData, or may be some other futuristic tools? Well the questions will keep tumbling upon every now and then. As the economies are becoming more and more data-driven the onus lies on the Government to incorporate BigData so as to run the Government in the most efficient way possible. The onus also lies on us to prove how quickly we adapt ourselves to the changing needs and demands and understand the potential of this technology. For the time being "*let Business Intelligence and BigData permeate everywhere...every business*".