

Big Data – The Next Big Thing: An insight



New ways of capturing data and analytics of the data is being constantly evolving and has now become a field itself. Many terms have been coined for these series of activities. Some of them are Data Warehousing, data analytics and presently being termed as Big Data. The Big Data revolution began immediately after the advent of “www” also known as the World Wide Web. Ever since the e-platform was built and stabilised, techniques of using the Internet for Business was developed, and thus, a new market-place was born. A CA can diversify his services and provide management consultancy services in providing Big Data Solutions to the client. A CA being exposed to a variety of business, data, knowledge, etc. would be considered the right person to provide solution for a company to implement Big Data Platform. CAs now have the capacity for rendering a new breed of services which would lead to immense growth and development in the society.



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History

Civilisation has been built on the foundation of preservation of records and dependence on these records. Hence the importance of identification, analysis and storage of records and data was recognised by the dwellers of the past. Ever since, ‘Data’ has been the next most important resource as

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'Time' being the most important one to mankind. Data has been given high relevance from then on.

Data includes any piece and bit of information which can be recorded and stored to be put in use in the future. Civilisation has realised that efficient utilisation of data would lead to effective growth. Over the years, man has continuously put his efforts to make the best use of data. New ways of capturing data and analytics of the data is being constantly evolving and has now become a field itself. Many terms have been coined for these series of activities. Some of them are Data Warehousing, data analytics and presently being termed as Big Data.

Big Data Analytics

The industry now has a buzzword, "big data," for how we're going to do something with the huge amount of information piling up. "Big data" is replacing "business intelligence," which subsumed "reporting," which put a nicer gloss on "spreadsheets," which beat out the old-fashioned "printouts."

Big Data is a scientific field of information analysis wherein the following processes are part. They are –

- Data Identification
- Data Source Identification
- Data Storage
- Data Categorisation
- Data Analytics
- Data Reporting
- Life of Data

Big Data Analytics is now a huge field of Business itself. Big data is a more complicated world because the scale is much larger. Sophisticated tools have been developed to compliment Big Data Analytics. Open Source tools such as Pentaho, Hadoop, Tableau, Splunk, *etc.* are powerful tools used for Big Data. Companies have been incorporated with the purpose of providing Big Data Solutions.

Who uses Big Data?

The Big Data revolution began immediately after the advent of "www" also known as the World Wide Web. Ever since the e-platform was built and stabilised, techniques of using the internet for business was developed, and thus, a new market-place was born. Companies who use this market for their business

operations use big data to achieve the following objectives –

- Demand and Supply Analysis
- Improvisation of the Product Life cycle
- Better rendering of services
- Market Research
- Customer Behaviour
- Decision Making
- Market Diversification
- Market Penetration
- Product Penetration

There are many classic examples of companies who make data to achieve the growth that they currently have. Some examples are as follows –

- Flipkart, e-bay, Amazon (e-commerce giants) use big data to understand the needs of the consumer and hence, always publishes those products on their respective websites for sale at a price that the customer cannot refuse.
- Google, Microsoft, Yahoo *etc.* use big data to understand the browsing patterns of the customer and make sure to target the correct advertisements that would be needed to the user. Even their search engines provide those results, against the search phrase inputted by the user, which are of high relevance and would solve any problem faced by the buyer.
- Facebook, Google Plus and other social networking sites use big data for the purpose of Consumer behaviour and give those advertisements, communities, pages, *etc.* that would favour the user.
- Telecom companies use Big Data to understand the Calling, SMS, Internet and Roaming Patterns of their customers, in order to provide better call tariffs and plans, so that they can capture the entire market.

From the above, one can conclude that, companies use big data so that they are able to capture the customer and more importantly, retain the customer.

Drawbacks of Big Data

Big data in the present era makes use of a lot of data for analytics and storage. This means that

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the Confidentiality and Privacy of data are now questionable. Privacy concerns have been developing as personally identifiable information that is used for analytics. Big Data no doubt is a powerful tool, but if misused, then the effects can prove hazardous.

Numerous regulations have been passed by the legislation in various countries to protect the integrity and availability of data and thus the confidentiality and privacy of the data is secured. These entire acts of restrictions have given rise to a whole new concept that is called "Data Localisation".

Data Localisation, in simple words, refers to applying of restrictions on the travel and storage of Data to the limit of a geographical boundary.

Analytics from big data may not be always right due to the constantly changing macro and micro factors of environment and change of human behaviour.

Misuse of Big Data Analytics would lead to other drawbacks such as –

- Wrong sale of product and services.
- Advertisement Abuse.
- Sale of Personally identifiable information.
- Financial Losses.

Big Data Analytics as a Fresh area of Consultancy

It is clear that companies harness the power of big data analytics for their growth and Market Presence. It is however not clear to those companies as to "Which is the best way to make use of Data". There was a proliferation of the so-called unstructured data generated by all the digital interactions, from email to online shopping, text messages to tweets, Facebook updates to YouTube videos. According to computer giant IBM, 2.5 Exabyte's - that's 2.5 billion gigabytes (GB) - of data was generated every day in 2012.

Data is only as good as the intelligence we can glean from it, and that entails effective data analytics and a whole lot of computing power to cope with the exponential increase in volume.

Big Data and business analytics are two of the most exciting areas in business and IT these days -- but for most enterprises, they are still developmental. Although the opportunities are boundless, the road

to an effective Big Data operation is fraught with challenges. Here are some of the obstacles that companies have encountered –

- Budget
- Data clean-up
- Data Retention
- Business and IT Alignment
- Developing new talent

A Chartered Accountant plays a vital role in assisting businesses to improve the use of their resources, increase their efficiency and achieve their objectives. As a management consultant the CA can also identify, evaluate and recommend ways to increase revenue and reduce operating costs, analyse operations and suggest changes in structure and individual responsibilities, conduct special studies, prepare recommendations, plans and programs, and provide advice and technical assistance in their implementation. Chartered Accountants, by application of their technical knowledge and business experience have been able to cater to the client's changing needs.

With reference to Big Data Analytics, a CA can render the following Management Consultancy Services –

- Big Data Pre Implementation Preparation
- Big Data Analytics Framework Design
- Big Data Design of Dashboards, Reports and Visuals
- Big Data Assurance

A. Big Data Pre Implementation Preparation

A CA, based on his knowledge, skills and judgement, can first help the company to facilitate a smooth big data implementation. While accomplishing this goal seems realistic given the progression of technology and the commoditisation of infrastructure, there are common pitfalls that companies, in particular, need to avoid when planning and implementing a big data program. By avoiding these drawbacks, outcomes can enhance an organisation's analytical insights and decision support processes. –

- Developing a business case
- Maximising data relevance
- Correct Estimation data quality
- Ensuring data granularity is not overlooked
- Contextualising data in the correct manner

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- Grasping Data Complexity
- Facilitating data preparation
- Creating organisational maturity at the correct stage
- Design of data governance methodology
- Consideration of Privacy Laws and Data Localisation Laws
- Leveraging on cloud service vendors for implementation of Big Data platform.

B. Big Data Analytics Framework Design

Preparation for the implementation has to be given the most importance and due care is to be taken for smooth implementation of the Big Data platform. It is the very foundation and depending on the strength that is present in the foundation, further expansion of the platform can be performed smoothly.

The next step is the design of the Analytics Framework. A CA can add maximum value addition as designing the analytics model is the very solution for the Big Data Platform. This model has the following components –

- Data Identification
- Data Categorisation
- Linking of Data
- Analytics on the data – It includes performing calculations, ratio analysis, trend analysis, linking of data *etc.* A CA can leverage the analytical methods that have been given under Standard of Audit 520 which is about Analytical Review Procedures.
- Design of a scoring system and a decision making criteria
- Design of Reports

All of the above constitute the model/framework which would be then tested with data. The data may or may not be live data. However, a CA can facilitate the test.

Upon successful completion of the tests, the framework would have to be implemented in the production/live Big Data Platform. In simple words, the Big Data Analytics tool would be configured to identify the data and capture it from the source, link and categorise the data, perform analytics on the data as per the parameters that have been set,

assign scores and ratings on the processed data and generate a report with a conclusion that would facilitate the management to come to a decision regarding a problem.

C. Big Data Design of Reports and Dashboards

As Big Data is an implementation of significant size, it would involve many users using the solution. The users may not be in the same position of the organisation chart. Hence, it is crucial that the employee, in his relevant position of the organisation chart, to have adequate access to data which is sufficient, limited and in a logical presentation manner. A CA can facilitate in design of different types of Reports, Dashboards and Visuals that can be used by the appropriate personnel.

i. Reports

A Report is a type of visual which would consist of data which is processed, visuals and a conclusion to which a decision can be made by the user of the report. The structure of the report is usually custom made and this design is loaded to the tool.

It is important to note that only those information which is material to the position is displayed in the report.

ii. Dashboards

A Dashboard is a real-time visual display of various data, reports in the home-screen of the user's account in the Big Data Platform. A Dashboard would facilitate the user for smooth navigation among the available Big Data inbuilt tools, reports, open items, pending decisions *etc.* A Dashboard would contain visuals mainly of charts, status updates, links, list of reports to be generated, *etc.*

D. Big Data Assurance

This is completely a new field under Big Data Analytics itself. A CA will be able to provide assurance to the client regarding the following scope of activities –

- Privacy Laws and Data Localisation Laws are complied with.
- Sufficient preventive and detective controls are in place and are continuously monitored against the identified risks.

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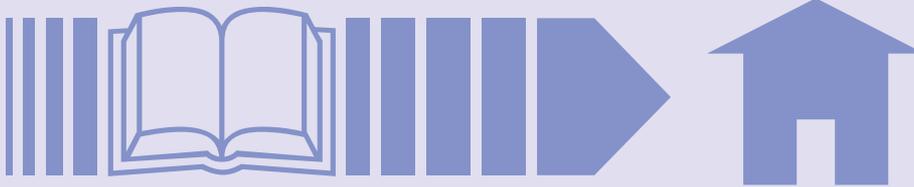
- Ensuring that there is no data leakage from the platform.
- Reviewing the Big Data Analytics platform is loaded with the framework that is actually providing the value that is expected by the company.
- Reviewing the storage controls that is implemented keeping in mind of the various Privacy and Data Localisation laws.
- Reviewing that sufficient and adequate security measures have been deployed to protect the personally identifiable information of others.
- Ensuring that the data which is being captured by the Big Data Platform is legal and is from legal sources.

Conclusion

Diversification as to how the decision making strategies are being influenced, is being witnessed. Reliance on Big Data by companies for decision making is gaining momentum. Hence it is very important to influence all to think analytically, think

A CA based on his knowledge, skills and judgement can first help the company to facilitate a smooth big data implementation.

strategically in a total context, deliver insight through analytics, monitor organisational performance in an analytical context, develop innovative business models, and use analytics to transform finance. A CA can diversify his services and provide management consultancy services in providing Big Data Solutions to the client. A CA being exposed to variety of business, data, knowledge, *etc.* would be considered the right person to provide solution for a company to implement Big Data Platform. Creativity is the main factor for arriving at an able design of the framework. Hence, it is necessary to think 'out of the box'. Chartered Accountants now have the capacity for rendering a new breed of services which would lead to immense growth and development in the society. ■



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