

Point of View on Big Data – A Look at the Landscape

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Abstract—Digitization is amassing a wealth of data in various forms. The ability to mine this data and deduce meaningful insights is quite a challenge. Today, every enterprise is investing in the solutions to address this common challenge through Big Data Platforms. This Papers speaks and gives out a Point of View on the Big Data based on the experiences dealt with and provisions you with a thought to solve this challenges with various landscape of solutions available in the Big Data and Analytics space.

Index Terms—Big Data, Analytics, Hadoop, Map / Reduce

1 INTRODUCTION

This article explains and brings out why we need Big Data, what benefits it offers and explains the point of view associated with Big Data that one needs to look at.

Why Big Data?

Digital Expansion is driving the Information Explosion in the entire landscape of every organization is dealing with. One of the important outcomes of this explosion is data. Data and its forms are different, we witness data in Structured, unstructured (full, semi and quasi). If we witness Transportation industry which is highly disrupted by Uber, Ola or Hospitality industry which is disrupted by Airbnb and Entertainment industry which is disrupted through Netflix are sitting on massive data which through Crowdsourcing approach. Every organization when they start any new initiatives today are working on the strategies on how to manage and monetize this data as they move forward. Some of the key use-case observations where Big Data can play role are:

- Promotional offers through Digital Marketing Campaigns
- Gain Insights through Customer behavior analysis
- Fraud Analytics through Cyber Security footprint

In the subsequent sections, you will see the advantages of Big Data, Point of view sharing some of the key observations with implications and overall Landscape playing a key role here.

2 BENEFITS OF BIG DATA

It is clear that organization invest where there is a clear outcome of business benefit and today we see where organizations sitting on rich data sets and exposed multiple channels and multiple platforms need to analyze and derive meaningful outcome. Hence Big Data is coming to their rescue. The figure 1 outlines the business benefits to the organization in terms of

1. Operational Efficiencies helps in lowering complexity, reduce costs, improve self-service abilities
2. Grow Sales focuses on improving sales, reducing churn, predict outcomes and help in improving customer experience through customer insights
3. Empower business to come up with new business models where we organization can create competitive

differentiation, monetize the data in the form of data as a service and experiment to incubate new opportunities.



Figure 1: Benefits of Big Data

3 POINT OF VIEW

Carrying a Point of View to Big Data helps in making investments and decisions and proper. Hence sharing few thoughts around the same:

- Big Data helps in creating Competitive Differentiation: Given the information explosion going on all around, and the current stream of innovations happening altogether, Big Data is going to be very important. Organizations that learn how to “harness” Big Data and “harvest” useful information and insight from Big Data will create competitive advantage for themselves. They will be seen by their customers as keeping up with the March of technology capabilities. Others that are not current will appear to behind the times, and therefore not competitive.
- Big Data need to be managed and analyzed effectively to derive real-benefits: Given the Seven Vs such as volume, variety, velocity, veracity, variability, visualization and Value are the characteristics of Big Data, it is not amenable to being managed by traditional technologies. It requires a new class of Big Data platforms e.g. The Hadoop ecosystem, the Map / Reduce Algorithm and technologies built on top of them, to harness Big Data. At the same time, analyzing Big Data with a view to harvesting useful nuggets of insight from a variety of Big Data sources require completely different technologies as well. These two domains of technologies are complementary to each other, i.e. two sides of the Big Data coin.

- Unstructured Data need to be mapped to structured form to consume and interpret - Unstructured information cannot be interpreted and used by end users, as it is. It must be converted into a useful form. This requires filtering a lot of noise out of the data, since Big Data tends to have a lot of noise relative to useful data. Further the information content of Big Data streams, must be interpreted in the context of other more traditional types of information, before it can be deemed useful. This requires the “Fusion” of Big Data based information with more traditional structured information to derive useful insight.
- Consolidation of Structured and Unstructured is creating a new competency stream such as Data Science and Business context is essential for Data science: Data Science is emerging in the industry. While Information consolidation is a general expertise, its application is usually within the boundaries of a specific Business context. Examples of specific business contexts are Finance,
- Marketing (Digital), Sales, Brand Management, Customer Service, Fraud and Risk analytics etc. Within each Business context, the information sources that are relevant, and the process of extracting useful insights from Big Data, are unique and distinct. This requires knowledge and understanding of Data sources and the processes for deriving useful information from Big Data in business contexts.
- Big Data is in incubation phase for many organizations while organization such as Google, Amazon, Microsoft, yahoo are major and matured players who adopted early - This technology is now slowly beginning to become viable for large commercial enterprises. Use cases which represent possible scenarios where Big Data can be fruitfully exploited, are still being discovered and documented.

4 BIG DATA LANDSCAPE

Please find the snapshot of Big Data Landscape which describes major players in this area in figure 2



5 CONCLUSION

Every enterprise should pay attention and design solutions with Big Data need in mind for the current or future solutions. Hence every, solution must be Big Data Ready. Looking into some of the Point of views and insights, it helps to solve some of the key application problems exist in the area of Traffic Control, Telecom, Retail, Fraud, Finance, healthcare and so on. Understanding the landscape is very critical to ensure that one need to place the Lego building blocks of technology to solve the problems of industry and create new insights. Time to take the Leap and take the game of enterprise to next level to become data-driven enterprise.

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REFERENCES

[1] <https://www.tcs.com/big-data>
 [2] <http://sites.tcs.com/big-data-study/ceo-point-of-view-returns-on-big-data/#>



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