



June 2014



Thinking Aloud

Managing Your Business: From Hindsight to Foresight through Better Insight – **Siva**

Podium

Interview with **Kesavan Srinivasan**, Senior Director & CTO – Sears Holdings India

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Haritika - Jhansi, UP

Dear Reader,

Big Data age is a term synonymous with the deluge of data that corporates and businesses alike are faced with. Transactional data captured today run into humongous bytes embedded in physical world devices and the ‘ Internet of things’ . The trillion byte size data in itself is a global phenomenon, which plays an important role in capturing market size, while contributing to the world economies.

The world over, the dawn of Big Data has been embraced by corporates, economic sectors and individuals, only to discover that Big Data introduces new complexities and challenges. However, with a proper understanding of how the benefits of Big Data can be reaped by accepting and solving these challenges will help to transform and create value across sectors of the global economy.

Various research topics on Big Data have also revealed that Big Data will only get bigger, and it would help one to prepare for the even more unimaginable amounts of data that we are to face in the future.

ET explores Big Data and the importance of the same this month.

In **Thinking Aloud**, Siva enlightens us about the fact that today companies are going ‘ glocal’ . Companies are expanding and reaching out to the other side of the world, and challenges are present in every aspect of the business. The availability of data at the right place, time and in the right format have always been an asset that progressive organizations can effectively use to aid informed decision making in their business activities. A blessing in disguise, today we are equipped with Business Intelligence data driven decision systems. Coupled with this, there are less expensive open source tools for data aggregation, collation, segregation and performing analytics which have all made data analytics systems more financially viable for implementation.



On the **Podium**, Mr. Kesavan Srinivasan, Senior Director & CTO of Sears Holdings India delves into the key aspect of Big Data and the importance of the same in business and society; Big Data is characterized by the 3Vs: high-volume, high-velocity and high-variety information assets. With advancement in technology, open source tools such as Apache Hadoop, Hive and others are available to tackle the data explosion expected in the near future. Mr. Srinivasan also gives advice on preparing for the even bigger data explosion that is yet to come.

In **We Recommend**, this month, we share with you links to articles from McKinsey Quarterly, and YouTube videos which highlight the importance of Big Data, its implications, strategies and how to cope up with this Big Data age.

In **Standing Ovation**, ET features Haritika – an NGO working on issues affecting the rural poor. Haritika was started in 1994 as an organization to work with people in the backward Bundelkhand region of Madhya Pradesh and Uttar Pradesh in India. Haritika focuses on the enhancement of environmental and agri-based livelihood systems. It has worked for more than 15 years and has been a part of a number of government sponsored development initiatives for water supply, sanitation and poverty alleviation.

In **Figures of Speech**, Vikram' s cartoon tries to measure Big Data!

As always, we value your opinion, so do let us know how you liked this issue. To visit our previous issues you can visit the Resources section on the website or simply [Click Here](#). You can also follow us on [Facebook](#), [Twitter](#), [Linked In](#) & [Google+](#) - where you can join our community to continue the dialogue with us!



Thinking Aloud

Managing Your Business: From Hindsight to Foresight through Better Insight - Siva

As globalization sets in more firmly, with geographic and business boundaries getting thinner and the global economies limping back to near normalcy before taking on a growth trajectory, it is only those organizations that have prepared during the lean times that will be able to quickly capitalize on opportunities presented over their global competitors.

With the opening up of businesses across the globe, limited only by individual country statutes and policies, competition has increased across the global marketplace. Every organization needs to look for innovative strategies to meet this competition in order to retain market share and grow.

Right data at the right place, in the right format has always been an asset that progressive organizations can effectively use to aid informed decision making in their business activities. With the exponential growth in technology, including internet and communication technologies, access to data is no longer a daunting task, but the sheer volume of data that is now available poses a challenge in accessing, aggregating and analyzing to derive actionable insights for business growth strategies. Thankfully, there are a number of data analysis and information processing tools available in the market today to facilitate this daunting task.

Businesses need to ensure that executives gain relevant knowledge on the next frontier of business strategy that

will help an organization to become agile and elastic to meet the changed market scenario, changed customer dynamics & heightened opportunities.

Over the past 10 years since the industry has started adopting Business Intelligence (BI) as strategic inclusions to their business activities, a number of examples of successful and not very successful case studies have emerged - but still data driven strategies using Big Data, Business Intelligence and Analytics, for business growth is in its infancy.

While the industry has amassed huge volumes of data over the years, often the cost of processing this archived data is so daunting that they are ignored! In most real time applications, the life of the information flow is limited to that time frame and is rendered useless if not used immediately. This requires systems that that can analyze these “ streaming data” in real time to assist inputs in decision-making. Thankfully with the advent of cloud based computing paradigms and the variety of less expensive open source tools for data aggregation, collation, segregation and performing analytics have all made Data Analytics systems more financially viable for implementation. It is time that organizations make their huge data actionable and perhaps even monetize.

Data comprises of both structured (those that can be controlled) and unstructured (those that come in from multiple external sources – for example, ATC imposed delays at airports based on weather details, third party partner data, customer feedback, emails, social media posts and competitor activity at a particular period, to name a few) elements. Research has it that around 85% of data composition in a Big Data scenario is unstructured in nature.

Given these qualities and realities, in this highly competitive market place where maintaining and growing market share, a data driven business strategy provides enormous benefits to organizations by helping them make informed decisions on all facets of their business operations including in building & delivering new products, which is in tune with customer expectations. It is therefore essential that organizations create awareness about data driven business practices among relevant resources in their employ.

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Podium

**Kesavan Srinivasan - Senior Director
& CTO – Sears Holdings India**



Mr. Kesavan Srinivasan is the Senior Director and Chief Technology Officer of Sears Holdings India (SHI) and is responsible for emerging technology practice in Pune. He has experience of more than twenty years in the spectrum of application development from designing to managing delivery of projects. His experience includes, apart from host of web, non-web and database technologies, building solutions using Big Data technologies.

Mr. Srinivasan joined SHI during its start-up days and contributed significantly to its growth in the past four years. His team has successfully modernized legacy applications to state-of-the-art technology platforms saving millions of Dollars for Sears. He and his team will be working to unlock huge value in at-rest and in-motion data within an enterprise; they have been successful in filing a patent on legacy modernization. He is passionate about making a difference in the organization

Prior to this Mr. Srinivasan leveraged his extensive experience in the area of application development to help build the application development organization in Sears.

He holds a Bachelor and Master' s Degree in Electrical Engineering. Apart from work, Mr. Srinivasan likes sports, reading books and spending time with family.

ET: What is 'Big Data' and what is its importance to business and society today?

KS: As the popular definition goes, Big Data is characterized by the 3Vs: high-volume, high-velocity and high-variety information assets that can provide deep insights and thus enable businesses in effective decision making. It is rather a phenomenon of data deluge, engendered by advancement of technology and parallel explosion of newer channels of data collection via a nexus of social, mobile and cloud computing. It is the sheer pervasiveness of digitization in our social fabric and it is only guaranteed to explode with the growth in the internet of things. The real power of Big Data is in its ability to fuse varied data from multiple sources and derive meaningful and powerful insights from it. It has the enormous ability to deliver the right product, service or message to a consumer even before he/she asks for it!

Businesses today are no longer grappling with the term Big Data but have graduated to the next step asking, how can I leverage it to derive good ROI? Most businesses are collecting data about their customers and their preferences from various sources and a lot of it is generally, not required for their day-to-day operations. Additionally, businesses typically have other internal sources of data which are untapped or underused – the so called “ dark data” . With the advent of technologies that help process all kinds of data, business can run analytics on these untapped datasets and derive valuable insights that will help them devise innovative strategies to increase their revenue. Businesses have to realize that this dark data has probable economic potential and it is in their interest to mine it for competitive advantage. There are many use cases across industries and geographies where Big Data has provided businesses unprecedented value. In this new era of Big Data, information is a big asset for any organization.

The importance of Big Data to the society today, is an interesting and an important question. The unprecedented computational power coupled with downward trending cost of storage has enabled unexpected discoveries, innovations and improvements in our quality of life. The data-centric world accrues numerous benefits to the society – right from competitive retail pricing, early warning signs of infection in both, adults and neonatal, improving energy efficiency, boosting agricultural productivity, and many more. Just like anything else, there are always two sides of a

coin – one being opportunistic for benefitting from it and the other staring at the risk of loss of privacy and serious damage. The technology is so advanced that it can do near-perfect personalization. The sophisticated algorithms that run on data avalanches could potentially cause unintended collateral damage to an individual. While these may seem to deter usage of Big Data, there will be privacy laws that will be in place that will act as a protective shield to the society and at the same time allow unfettered flow of data that can be used to benefit the society at large.

ET: With businesses today trying to tackle the data explosion era that we live in today, what are the tools and technologies available in managing Big Data?

KS: The tools and technology landscape has seen significant advancements since the release of 100% open source Apache Hadoop, a very popular framework for distributed parallel processing. It has gained tremendous adoption in the industry driven primarily by the enterprise grade Hadoop distributions from HortonWorks and Cloudera. Hadoop, at its core, has Hadoop Distributed File System (HDFS), a file system to store any kind of data and a new paradigm called Map Reduce, for processing that data. This is supplemented by a number of tools that form the Hadoop ecosystem. Pig is one such tool, a simple data flow language that abstracts the complexity of map reduce. Hive is another tool that provides SQL like interface to do basic analytics on data in HDFS. Just as Hadoop is a fantastic platform for batch processing, Apache STORM is a platform that facilitates distributed real time computation. It is the de facto platform for real time use cases. Another complementary toolkit as part of this ecosystem, that provides high throughput distribution messaging platform is Apache Kafka. Moving on to the visualization aspects, Hadoop is not inherently designed to provide very high read throughput. There is a new category of toolset called NOSQL technologies. Apache Cassandra, HBase and MongoDB are some of the more popular ones that more often than not act as the bridge between Hadoop and the visualization layer. On the visualization front, there is a powerful open source Javascript library called D3.js (and NVD3.js) that provides fantastic charting capabilities. In addition, there are notable third party vendor tools like Datameer and Platfora for data visualization with native connectivity to Hadoop file system.

Apart from these, Apache Spark which provides very fast in-memory processing of data in Hadoop and is especially suitable for running certain types of algorithms (like the logistic regression) which are not most suited for processing on Hadoop.

Notwithstanding all of these, almost all of the existing traditional BI tool vendors have invariably built connectors to Hadoop.

In summary, as is evident, tools are available in abundance to process the Big Data. Once these tool sets mature and become a part of the organizations enterprise landscape, Big Data will cease to be so and will be considered normal data.

The tremendous advancement in technology has literally made “ finding needle in a haystack” practical!

ET: What are the challenges for Big Data in the Indian context? Is there a different rate of progress for Big Data in India versus other developed countries?

KS: We have to invariably look at the Indian IT Services organizations and other industry organizations through separate lenses when it comes to the Indian context. The reason is that Indian IT companies have naturally jumped on this bandwagon when there was a whiff in the air. They have been aggressively trying to build the centre of excellences around this emerging technology and build competency to garner their share of pie and to deliver value to their existing clients, primarily in the western world. In this context, the challenge has been the same as that faced

by any other IT organization and that is, a generally slow adoption of this technology worldwide. It took time to sift through the hype and get a handle on the real substance that this technology offers.

When it comes to non-IT organizations, i.e, the corporates in India are still slow in adopting this technology. The Economist Intelligence Unit conducted a survey in 2013 and published a report “ The Hype and Hope: The road to Big Data adoption in Asia-Pacific” , which gives a good insight into the subject. Albeit many believe in the benefits accrued from leveraging Big Data, the lack of progress is attributed to internal issues that inhibit adoption, restricted access to data, lack of clear communication about Big Data strategy and in general, more of a wait-and-watch philosophy. That said, any industry that is data-centric, i.e., naturally collects lots of data and analyses it, will be polarized towards this technology, telecom and retail for example.

It is quite clear that the rate of progress is certainly different and that we lag quite significantly when compared, especially to the US. It is also important to note that from a pure technology play, we are building the competency at a fair clip and can be fairly competitive. As entrepreneurship blossoms and customer centricity increases, more organizations will take the leap to reap benefits from Big Data, for example, India’ s largest carmaker Maruti Suzuki, is an early Big Data adopter and has been able to grow 2.42% in a slowing economy in the automobile industry. ICICI Prudential life, India’ s largest private life insurance firm, is also testing waters with Big Data.

ET: What is your advice to one preparing for the even bigger data explosion that is yet to come?

KS: It is necessary to be prepared before the avalanche dawns. The internet of things is bound to increase data manifold. Organizations have to realize that this information is an asset and therefore needs to have a proper infrastructure strategy and organization structure in place for information management. Organizations have to assess the competencies available internally and build as necessary to respond to the potential opportunities. Organizations should be keenly following the path tread by other industries and look out for cases that may have parallels in their own business. Big Data initiatives are not just for IT, business leaders need to be intimately involved and therefore communicating the organizations Big Data strategy to all stakeholders is extremely important. Organizations will have to develop a data culture wherein insights from facts are valued and at the same time recognize the human frailty in discovering such sights. Finally, while it is necessary to be opportunistic, it is also important to ensure social etiquette is not breached to avoid any kind of embarrassment to individuals or bring disrepute to the organization.

ET: Sears India has come a long from starting operations in 2009 to what it is today. Could you please share some insights about your firm and how your company operates in the Big Data arena?

KS: Sears India is a global in-house centre for the parent company, Sears Holdings Corporation, headquartered in Hoffman Estates, Illinois, USA.

Sears India started on its Big Data journey back in 2011. Since then, we have done pioneering efforts in this technology, ranging from legacy modernization, to replacing traditional ETL, pricing analytics to doing real-time processing and reporting. We started with modernizing executive information system from a legacy to Big Data platform. There were few other efforts that were started in parallel and one that blossomed into a sizeable program was our legacy modernization effort. This program was primarily run from Sears India wherein we were migrating our core business applications to the newer Hadoop platform. This program helped the parent organization save millions of Dollars on a year-on-year basis and at the same time help build a very strong Big Data competency within the organization. We have proven a very strong use case for deriving operational efficiency by using Big Data technologies. One of the Gartner studies says that 51% of the organizations are leveraging Hadoop for process

efficiency and cost reduction. During the last couple of years, Sears India has successfully implemented multiple projects on Hadoop platform within core systems, supply chain, point-of-sales, pricing, marketing and online business units. Big Data is an integral part of our technology landscape. Sears India has demonstrated to be more than an able partner to our parent organization and has certainly stolen a march over other organizations in India, in this emerging technology.

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We Recommend

Articles & Videos

There is a plethora of information available on the World Wide Web. We share with you links to resources from McKinsey Quarterly, which is the online business journal of McKinsey & Company and some YouTube videos related to Big Data.

1. **When Big Data goes lean**

This article highlights the importance of advanced analytics and lean management. Powerful data-driven analytics can also help to solve previously unsolvable problems that undermine efficiency in complex manufacturing environments.

Link: http://www.mckinsey.com/insights/operations/when_big_data_goes_lean

2. **Big Data: What' s your plan?**

Authors Stefan and David Court guides one towards the promised land of new data-driven businesses and how to get started, with an understanding that the payoff from joining the Big Data and advanced-analytics management revolution is no longer in doubt. The article takes us through a simple plan of how data, analytics, frontline tools, and people come together to create business value.

Link: http://www.mckinsey.com/insights/business_technology/big_data_whats_your_plan

3. **Big Data: The next frontier for innovation, competition, and productivity**

The avalanche of data today that businesses face will become a key basis of competition, productivity, innovation and consumer surplus. These are the research findings of McKinsey Global Institute (MGI). MGI has researched Big Data in various domains — healthcare in the United States, the public sector in Europe, retail in the United States, manufacturing and personal location data globally.

Link: http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation

4. **Are you ready for the era of ' Big Data' ?**

The FAQ styled article outlines the important ways Big Data could change competition: by transforming processes, altering corporate ecosystems, and facilitating innovation. The authors opine that over time, Big Data may well become a new type of corporate asset that will cut across business units and function as a powerful brand does.

Link: http://www.mckinsey.com/insights/strategy/are_you_ready_for_the_era_of_big_data

5. **Videos**

Big Business Unlocking Value from Big Data with Analytics

The video is a discussion panel at the Stanford Graduate School of Business where key executives from Baidu, LinkedIn and Foursquare gives viewers their insights on how to generate value from Big Data and how the leaders of today can develop a vision using Big Data.

Link: <http://www.youtube.com/watch?v=Zr02fMBfuRA>

6. **Big Data, Small World**

Data Scientist Kirk Borne speaks on the topic of Big Data in the context of the small world phenomena - how Big Data is making the world a smaller place. He highlights how rapidly data volumes are expanding, while providing a big opportunity to discover new phenomena.

Link: <http://tedxtalks.ted.com/video/Big-Data-Small-World-Kirk-Borne;search%3Atag%3A%22tedxgeorgemasonu%22>

Note: To access the entire articles, you are required to register with the McKinsey Quarterly website.

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Standing Ovation

Haritika, Uttar Pradesh



Started in the year 1994, Haritika is an NGO based in Uttar Pradesh determined to improve the Bundelkhand region of Madhya Pradesh and various parts of Uttar Pradesh. It aims at ridding these areas from hunger, poverty, environmental degradation and all forms of exploitation based on age, sex, religion and ethnicity. The NGO also works towards the management of natural resources as well. It has made provisions of infrastructure facilities so as to make the villagers living in the backward districts of Bundelkhand region, self-reliant.

The major activities of Haritika are:

- Integrated Water resource Management
- Natural resource Management
- Renewable Energy
- Rural drinking Water Supply & Environmental sanitation
- Health Education
- Livelihood
- Poverty Eradication
- Awareness
- Agriculture Extension
- Women Empowerment

The NGO' s drinking water projects are based on the integrated water resource management approach that results in both system & source sustainability. These water projects provide round the clock household tapped water at the village level. Along with providing tapped water facility, water conservation structures like roof top harvesting, check dams etc. near by the sources of drinking water have been constructed.

Apart from proactively working on sustainable projects relating to water harvesting and management, crop optimization, soil conservation and afforestation are other important focus areas. Haritika also focuses on child education, women empowerment, health, environment and socio economic upliftment of the poor.

The NGO firmly believes in promoting dignity and gender equity. Over the past few years, Haritika has worked on 20 projects with the support of various international & national partners.

For more information, one can look at their website: <http://www.haritika.org.in>.

For a very green cause and the vision for a better society, Haritika deserves a standing ovation!

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