Big Data Analytics Landscape And Careers

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Abstract—**Big Data Analytics helps organizations harness their data and use it to identify new opportunities. That, in turn, leads to smarter business moves, more efficient operations, higher profits and happier customers. $15 billion on software firms only specializing in data management and analytics. This industry on its own is worth more than $100 billion and growing at almost 10% a year which is roughly twice as fast as the software business as a whole. In February 2012, the open source analyst firm Wikibon released the first market forecast for Big Data, listing $5.1B revenue in 2012 with growth to $53.4B in 2017. The McKinsey Global Institute estimates that data volume is growing 40% per year, and will grow 44x between 2009 and 2020.**

Keywords—volume, velocity, variety, veracity, OLAP

I. INTRODUCTION

Big data is the realization of greater business intelligence by storing, processing and analyzing data that was previously ignored due to the limitations of traditional data management technologies. "Big data is data whose scale, distribution, diversity and/or timeliness require the use of new technical architectures and analytics to enable insights that unlock new source of business value". There are many definitions of Big data by many companies. According to IBM- "Big data is the data characterized by three attributes: volume, variety, and velocity". On the behalf of Oracle- " Big data is the data characterized by four attributes: volume, variety, velocity and value ".
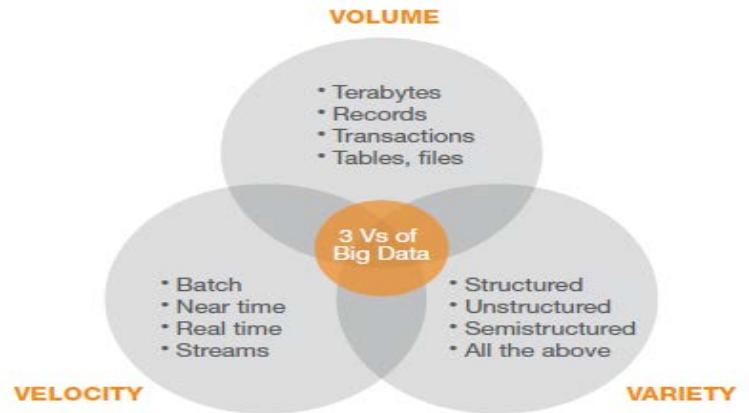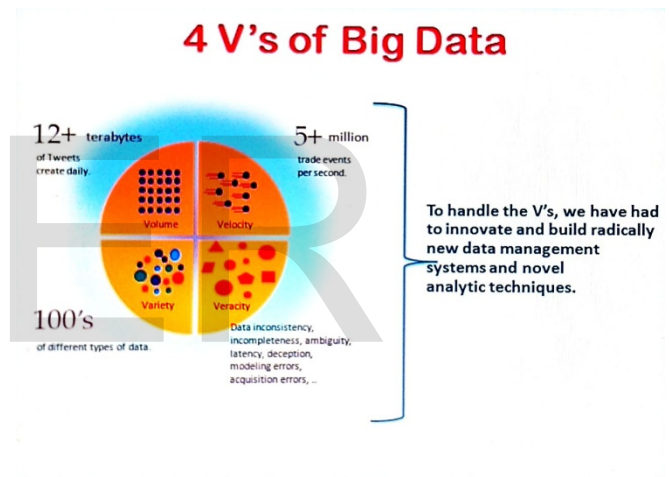

Fig.1. Big Data Everywhere

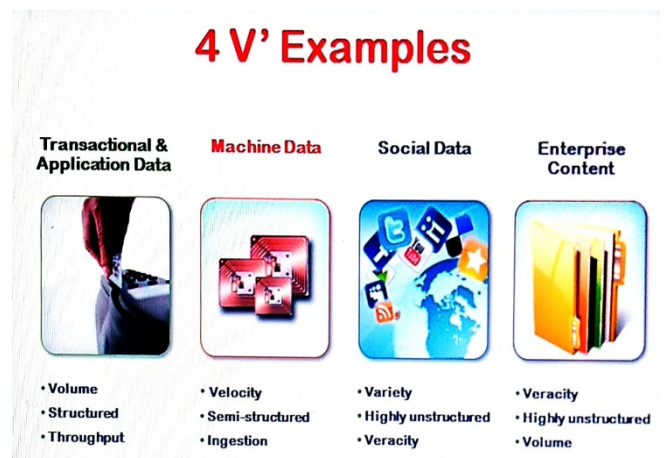Fig.2. Big Data Overview

Fig.3. 4 V's of Big Data

Fig.4. Examples of 4 V's

II.   WHAT IS ANALYTICS?

The Scientific process of transforming data in to insight for making better decisions, offering new opportunities for a competitive advantage.

III.   TYPES OF ANALYTICS
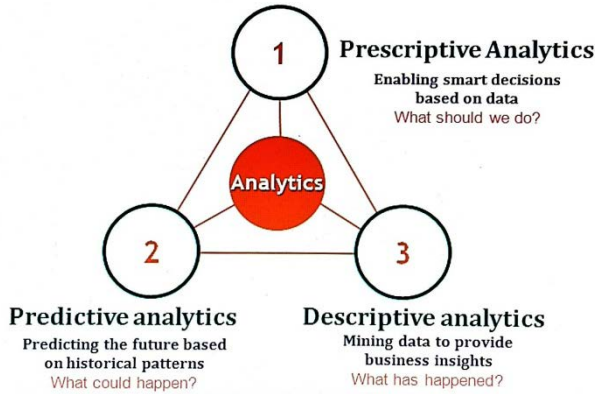

Fig.5. Types of Analytics

IV.   THE CASE OF BUSINESS ANALYTICS

A. Business Need

1) The Business environment today is more complex than ever before.

2) Business are expected to be dilightly responsible to the increasing demands of customers various stakeholders and even regulators.

B. Solution

1) Organizations have been turning to the use of analytics.

2) More than 83% of global CIOs surveyed by IBM in 2014 singled out Business Intelligence and Analytics as one of their visionary plans for enhancing competitiveness.

C. Goal

In most cases the primary objective of an organization that seeks to turn to analytics is:

*   Revenue/Profit growth
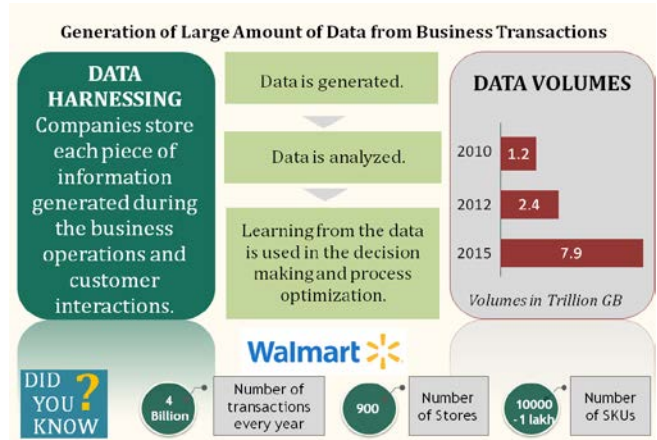*   Optimize expenditure

V.   GROWING NEED FOR ANALYTICS

Fig.7. Growing Need for Analytics

VI.   WHY IS BIG DATA ANALYTICS IMPORTANT?

Fig.8. Importance of Big Data Analytics

VII.   DEMAND FOR ANALYTICS PROFESSIONALS IN INDIA

A. A Business analyst is not able to discover insights from huge sets of data of different domains. Data Scientist can work in Coordination with different verticals of an organization and find useful patterns/insights for a company to make tangible business decisions. 15000% increase in job postings for Data Scientists in the U.S. between 2014-15.
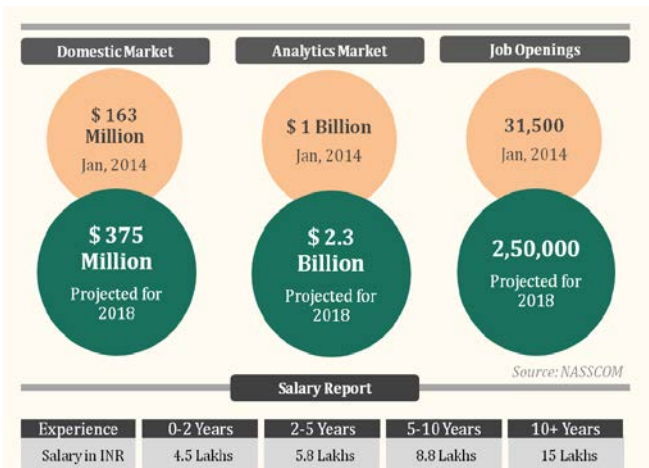
Fig.9. Demand for Analytics Professional in India

Fig.10. New Analytics Jobs By Industry
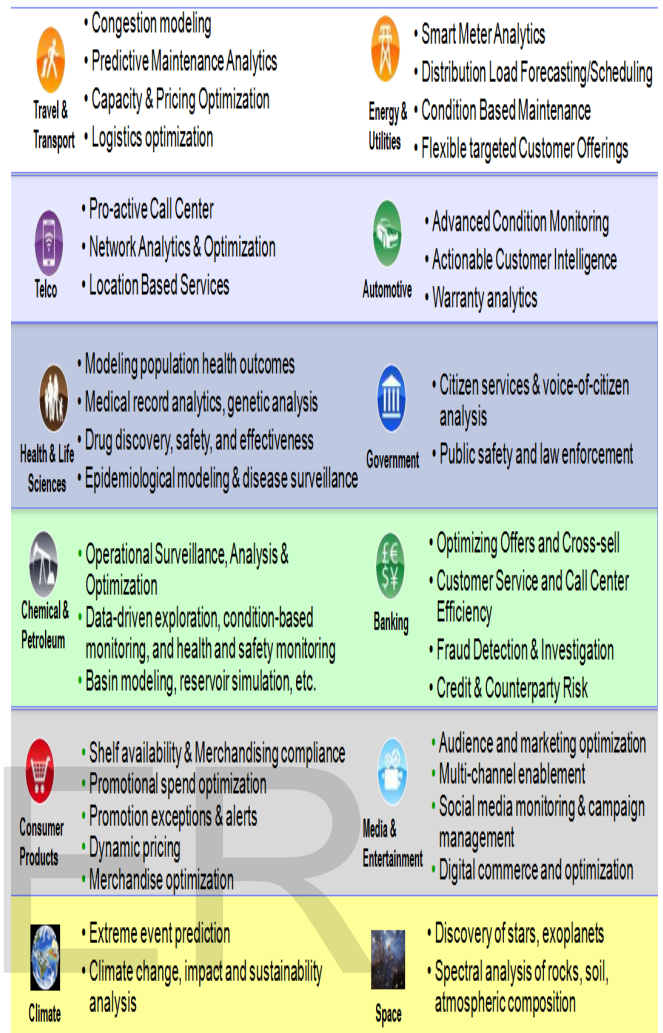
Fig.11. Big Data Analytics Is Touching Every Industry

VIII. CAREER OPTIONS IN ANALYTICS

FIELDS IN ANALYTICS	MIS REPORTING	NON-PREDICTIVE ANALYTICS	PREDICTIVE ANALYTICS	MACHINE LEARNING
KEY FEATURES	• Data management • Data Exploration • MIS and report creation • Automation of reports	• Segmentation • Customer profiling • Portfolio Analysis • Trend Analysis • Forecasting	• Probability models • Classification and regression trees • Time series models	• Neural networks • Multi-layer Perceptron • Geospatial models • Associative rule learning • Inductive logic programming
TARGET AUDIENCE	• BCom • B.E • BTech	• BCom • B.E • BTech • MBAs	• B.E • BTech • MSc (Statistics) • MBAs • MCA	• B.E • BTech • MSc (Statistics) • MBAs • MCA
INDICATIVE JOB ROLES	MIS Analyst Data Analyst Strategy Analyst Cost Analyst		Data Scientist Statistician Advanced Analytics – Team Manager Market / Global Research Analyst Analytics Manager	

Fig.12. Career Options in Analytics

IX. FUTURE RESEARCH DIRECTIONS IN BIG DATA

OLAP over Big Data

A. It is natural to think of the problem of computing OLAP data cubes over Big Data as one of the top-interesting challenges in the research community, Unfortunately state-of the-art solutions are not capable to deal with computing OLAP data cubes over Big Data, mainly due to two intrinsic factors of Big Data repositories:

B. Size, which becomes really explosive in such data sets.

C. Complexity (of multidimensional data models) which can be very high in such data sets.

D. Needs of designing novel models, techniques, algorithms and computational platforms for supporting the problem of computing OLAP data cubes over Big Data.

REFERENCES

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