



Big Data and Digital Boon

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India's digital surge has made governments services delivery more effective and cost-effective. Even on the consumer side, the businesses show uneven adoption and gap opens between digital leaders and other firms. As India's digital transformation unfolds, it could create significant economic values.

As on-line transaction increases so does the volume of data. An understanding of data shows that the quantities, characters or symbols on which operations are performed by a computer, which may be transmitted in the form of electrical signals and recorded on magnetic, optical or mechanical recording media. The larger volumes are termed as big data. Big data is a collection of data that is huge in volume, yet growing exponentially with time. It is a data with so large size and complexity that none of traditional data tools can store it or process it effectively.

Ayushman Bharat Digital Mission

The government of India has launched the Health Mission on the strength of Big Data handling capabilities. It is intended to use Digital Technology to reduce people's hassles and make life simpler. The mission will create an Ecosystem linking platforms like UPI, Co Win and Aadhaar to enable people to search, book and access health services online. This could be made possible because of the capacity to handle large digital data in an effective manner. Healthcare services have become government's major responsibility mainly during the Corona Pandemic period. PM's programme of Digital India is phenomenal and has received positive fillip during last 2 years. While implementing this programme government has taken care of privacy issues in the architecture. The patient is the

owner of his / her record and will control the data. Consent, privacy and security are all built-in. The data will not be personally identifiable. The major challenge expected is to have digital system in the hospitals that is where the records are going to be generated. This is important because the records which are generated are physical. The challenge is to digitize those records and the government is working on the same.

This is an unique case where the government has utilized the Big data for health services.

Big Data Characteristics

It is necessary to have a proper understanding of Big data, its characteristics and advantages. These are as described below:

A number of elements of Big Data need to be understood. These are: Big Data examples; types of Big Data, characteristics of Big Data and Advantages of Big Data Processing.

Stock Exchange is an example of Big Data that generates terabyte scale of new trade per day. The statistics show that social site of Facebook consumes a lot of data in terms of photo and video upload message exchanges, and putting comments etc. Flight operations and train operations are yet another example.

The Data can be structured; unstructured and semi-structured.

The structure of Big Data is an important exercise.

Any Data that can be stored, accessed and processed in the structured format is a 'structured' data. Over time computer have become advanced and smart and talent in computer science has achieved greater success in developing techniques

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Key Areas Evaluated

- Board Structure, Diversity and Skill matrix
- Board's compliance with its legal, regulatory and fiduciary responsibilities
- Board Dynamics & Functioning
- Board Committees - Structure, Functioning & Effectiveness
- Corporate Governance Compliance Status and Disclosures
- Stakeholders Relationship Management
- Risk Management and Internal Controls

for working with such kind of data (where the format is well known in advance) and also deriving value out of it. However, now a days, we are foreseeing issues when the size of such data grows to a huge extent, typical sizes are being in the range of multiple zettabytes. (One billion terabytes makes one zettabyte). This also gives idea about big data.

Unstructured data is any data with unknown form or structure. Unstructured data poses multiple challenges in terms of its processing for deriving value out of it. A typical example of unstructured data is a heterogeneous data source containing a combination of simple text files, images, videos etc. Now a days large organisations have wealth of data available with them but do not know how to derive value out of it since this data is in raw or unstructured format.

Semi structured data can contain both the forms of data. Web application data, which is unstructured, consists of log files, transaction history files etc.

Characteristics of big data include: Volume; Variety; Velocity and Variability.

Volume comes first whether a particular data can actually be considered as a Big Data or not, is dependent upon the volume of data. 'Volume' is one characteristic which needs to be considered with Big Data solutions.

Variety is the next characteristic. Variety refers to heterogeneous sources and the nature of data, both structured and unstructured. During earlier days, spreadsheet and databases were the only sources of data considered by most of the applications. Now a days, data in the form of emails, photos, videos, monitoring devices etc are also being considered in the analysis applications. This variety of unstructured data poses certain issues for storage, mining and analyzing data.

Velocity is the next characteristics. Velocity is basically the speed of generation of data. How fast the data is generated and processed to meet the demands, determines real potential in the data. Data flow in the form business processes, application log, networks, and social media sites, sensors, mobile devices etc represents the same. The flow of data is massive.

Variability refers to inconsistency which can be shown by the data at times, thus hampering the process of being able to handle and manage the data effectively.

Various advantages of Big Data Processing include the following:

- Businesses can utilize outside intelligence while taking decisions.
- Improved customer service.
- Early identification of risk to the products/ services.
- Better operational efficiency.

The integration of Big Data technologies are being used for creating or staging area for new and useful data use.

India's Capability to handle Big Data

India is the fastest growing market for digital consumers, being second to China, in the area of internet subscribers. Indians have over 1.25 billion mobile phone subscribers, consuming (on an average) 8.3 GB data each month. India is digitizing faster than any other country. The public and private sector are both propelling digital consumption growth. The Government has enrolled more than 1.2 billion in its biometric digital identity programmes – Aadhaar and brought more than 10 million businesses onto a common digital platform through GST. It has helped spur consumer adoption of digital services.

Digital technologies and platforms are poised to fundamentally change the way Indian businesses operate internally and how they interact with their customers, suppliers and competitors. These technologies make it easier for businesses, people and machines to communicate instantly and continuously, eliminating intermediaries and enabling easier collaborations, transactions and sharing of information. Digital can increase productivity by automating many tasks, and collecting and analyzing data to identify inefficiencies, detect flaws and errors, and enable products and services to be customized.

Many management surveys have indicated that big data is appropriately utilized in companies where the board looks into various issues related to introduction of appropriate processes. It is necessary that new models are evolved which use Big data for driving the business. Clear goals and objectives will be necessary and outdated models can be of no use. Data driven culture has to be appreciated by the Board. Machine learning and artificial intelligence will play an important role in creating data, analyzing data and implementing data for business purposes. Board members should have developed appropriate understanding of the new technology and its strength. At the same time it is also necessary that the board member understands the Cyber Security issues mainly those related to data breaches.

Digital Technologies are found to be the most powerful and can create the most value, when the forces they unleash, integrate services across the digital sector boundaries in to new digital ecosystem. Technology connects businesses with customer and one another, automates interaction and analyses the data so created. The resulting ecosystem could transform revenues multiple times ■

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