Challenges of Big Data faced by Pharma Companies

Internet is overflowing with information. From cooking tips to health tips to lifestyle tips -you find it all there. Some information we provide, and a few are gathered basis our choices & preferences made online.

Significance of Data

Today's economy is data-driven. Data allows companies to stay updated and it helps to forecast future trends to maintain their competitive edge. Data to control businesses was first used 7000 years ago. It was used to keep a track of crops and herds. Since then, we have seen the quality and quantity of data usage growing by leaps and bounds.

Big Data

The term Big Data was introduced by O'Reilly Media in 2005. Big Data is a term used for huge and complex data which can't be processed using traditional methods. Big Data shows a field to analyze and extract information in a systematic way from structured and unstructured data. Traditional data-processing application software can't handle such Data.

Big Data & Pharma Companies

Pharma companies gain tremendous insights to augment and accelerate the development of drugs. Big Data helps in decision-making which pertains to drug discovery, patient approach, and marketing. Pharma companies have used Big Data for revolutionary advances and progress.

Big Data and its challenges for Pharma Companies

The **real-world data** is unstructured and is available in various formats. It contains text and numerical data. The available data is often messy and has inconsistencies. Hence pharma companies find it challenging to manage such data.

The Real-World data that forms a part of Big Data includes

- Notes from physicians

- Scan reports and pathology reports and images

- Electronic health records (EHR) of patients

- Data from clinical trials conducted by pharma

- Data from insurance companies

- Data from drug testing

Lack of Specialized staff to handle Big Data

People have exposure to handling significantly small data. However, one needs to have specific skill sets to handle Big Data and gather insights from Real-World data. SAS programmers can analyze data from clinical trials from clean datasets in a uniform manner. However, the real-world data is available in mixed and marred with inconsistencies. So, the organization of such data in a systematic manner is tedious and the programmers lack the skill-set to handle such Big Data. The need for data scientists and analysts is an ever-growing challenge.

EHR Inconsistencies

Though EHR gives massive data it falls short when one needs answers to specific questions related to research. A standardized method is needed to make sense of genomic data and EHR data that is anonymized. The clinical trial does not include patients who are fragile, aging, and immobile. Also, patients suffering from rare symptoms are excluded from clinical trials. Data from these patients' categories can be gathered from real-world data through drug compliance. From EHR records is it difficult to gather and collate the information of the source.

The transition from old methods of Data Processing to newer Technologies

The transition from the traditional or existing methodology of gathering data to adapting newer technology is long and tedious. The investment is also huge. Pharma companies need to adapt to a higher level of analytical methodologies and tools.

Integration of Data

The data is available from various sources and in various formats. Integration of such data and to compile in a systematic way for the understanding of stakeholders is a challenging task. The key to this problem is the correct selection of the data tool management system. But at times if the tool is not right then a lot of time and resources go in vain.

Exodus of Data

In recent times the amount of data has grown exponentially. It is ever-growing as the number of sources has increased. The pace at which such data needs to be processed has to increase as well. Otherwise, there would be a lag between the data available and data processed.

Overcoming Challenges

Though pharma companies face many challenges when it comes to Big Data management, they will be overcome the challenges in the near future. For example, the company **Genentech** has partnered with **The Data Incubator** to train and employ data scientists.

Conclusion

It is difficult to understand the full potential of real-world data and it is challenging work. Still, Pharma companies are maximizing on Big Data for therapeutic uses and drug discovery as it is vital to ensure the patients are provided the right treatments at the right time and to boost the healthcare system.

Aventior has a proven track record with pharmaceuticals, biotech and, diagnostics companies when it comes to **Data Engineering**. We know the power of data and how to harness its power. We believe in the holistic approach of data engineering, management, and visualization. We offer complete data management solutions. The conversion of crude data to its final analytics is done by data engineers at Aventior. To know more about our Data management solutions, write to us at **info@aventior.com**.