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Title: **IMPROVING THE BUSINESS BY IDENTIFYING THE RISKS AND QUALITY OF SERVICES IN BUSINESS WITH USING BIG DATA ANALYTICS**

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Paper Authors

REVATHI DURGAMM.Tech
AVN Institute of Engineering and Technology.

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IMPROVING THE BUSINESS BY IDENTIFYING THE RISKS AND QUALITY OF SERVICES IN BUSINESS WITH USING BIG DATA ANALYTICS

REVATHI DURGAM$_{M.Tech}$
Assitant professor,AVN Institute of Engineering and Technology
Email:revathidurgam@gmail.com

ABSTRACT: Enormous Data is world evolving innovation. Well known business associations are using the Big Data investigation to enhance their business. Each business is relying upon the examining the client information and their advantage. A few associations are not using the Big Data innovation due to they doesn't having the learning of enormous information and its uses in the business. In this paper I examined about the enormous information innovation in the business field and Impacts of huge information in the business. I additionally talked about the devices utilized as a part of the examination of enormous information.

1. INTRODUCTION:

These days information is expanding quickly. We have to mine substantial measure of information for better results. Customary Data mining ideas are not suite for the present investigation process in view of expansive measure of information. So Big Data investigation is the most ideal approach to break down such kind of gigantic measure of information. Online networking, Internet of Things (IOT), Sensors, Business, E-Commerce, and so forth., will create enormous information. Every year 1000 Exabytes of information is created from the wellsprings of social sites, cloud based arrangements, business administration, and machine and gadgets [1]. It will expand more than 20 times for next ten years. Consistently 4 to 5 terabytes of information is created by the New York Stock Exchange, Facebook is producing 7 petabytes by facilitating 240 billion pictures for every month, 10 petabytes of information put away in the Ancestry.com and Internet file have been stores the 18.5 petabytes of information. Since from the previous two decades Business examination and insightful and enormous information have been turned out to be progressively imperative in business groups and additionally in the scholastic. IBM has been accounted for that the business examination is the one of the four noteworthy innovation drifts in the time of 2010[2]. From the business perspective Big Data will assume an indispensable part in change the eventual fate of the business. Business needs to distinguish the feeling and conduct of the general population to publicize and deal their items. Individuals are imparting their insight and began dialog on the items through the web. Each association needs to consider these supposition and discourse to win in the

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compition business world. These information is expanding quickly and it isn't so natural to process and investigate. Huge Data handling and Big Data examination is the answer for the breaking down and procedure of vast measure of information. Information has been retrived frame the diverse sources like sensor gadgets, and applications and implanted into the huge information. For business change associations are centering in the online networking, for example, facebook, twitter which can give the information posted by the billions of people from whole world. These kind of information is gathering from online networking so this information is likewise called as web-based social networking information. Stock trade information will take the choices on purchaasing and offering the offers of different organizations by the buyers. These different sorts of data is accessible in three configurations they are organized, semi organized and unstructured. XML is the case for semi organized information. Substantially more enormous enterprises and retaielers utilizing huge measure of information to anticipating the client intrigue and they are giving the relative inquiry to their clients while they are acquiring the items on their official sites. This procedure will draw in the client since they are getting relavent and required inquiry of the thing or item which they needs to purhase. These expectation and inclination were produced with utilizing the Big Data examination. It can break down the organized information, for example, name, address, portable number, and so forth., and also unstructured information for instance sound records, recordings, pictures, and so forth.

2. RELATED WORK:

2.1 What is BIG DATA?

In the name only we can define that Big Data is having the Large amount of data such as peta bytes of data. Big Data is not a solution for the all types of problems. Big Data Analytics is the solution for all types of problems in data mining. Every sorts of data are not a Big Data. Big data is having the characteristics such as Velocity, Variety, Veracity and Volume and it is also defined as 4V's, the 4V's are Velocity, Variety, Veracity and Volume[3].

Volume: The volumeof the data is increased day by day. It is not in size of giga bytes or tera bytes. Now it is in the size of peta bytes. Anually 1000 exabytes of data is generating. Every year data was increasing 4 times more than previous year. Storing and processing this much of data is critical. Big data processing and anlysis will provide the solution for these problems. Big data provides the various of algorithms to provide the smart analysis on huge amount of data. Commodity hardware is enough for applying bigdata concepts on data such as hadoop, HDFS, Flume, etc.

Variety: Veracity is one of the best most important technology trend in the Big Data. In relational database all data is well formatted. It is in form of structred. Structured data means well defined data with using group of rules such as name in the format of text, date in date format, amount should be in the form of numerical and having two decimals. Unstructured data is the main important concept in the Big data. Unstructured data means it is not in the

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well defined format such as images, audio files, video files, a tweet these all are different but people can express their ideas and thoughts. One of the important goal of the big data is to make sense of unstructured data by analyzing it.

Veracity: Trustworthy of the data is called as veracity. It is also refer as abnormality, noise and biases in data. Veracity is the biggest challenge compare with velocity and volume in Big Data. We should check the process of data is done perfectly and mine the meaningful data to achive the veracity in big data analysis.

Velocity: Velocity is nothing but the information flow in the business process, networks, machines, and people interaction medias such as social media, mobile devices

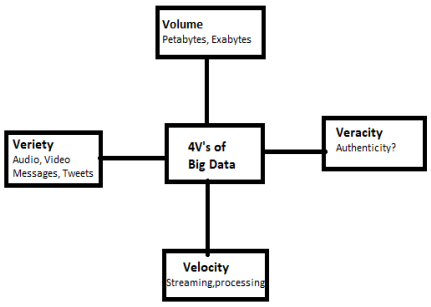

Fig. 1: Four V's of Big Data

These are the charecteristics of Big Data. Big data is giving the oportunity to organizations to gain advantage in the todays compititve digitized market place. With this technology organizations are changing their way of interaction with their consumers and they can provide better services to their consumers.

2.2 Business Intellegence and Analytics:

Business intellegence analysis is nothing but analyzing the data and make it into the usable information. This information is used to help the business managers, business executies and end users make perfect decisions in the business. BI information is having the historical and new data which is gathered from the source systems. It will support the tactical and strategic decision-making processes[2]. Different types of organization have been helped generating relavent interest in Business Intelligence and Anaytics by the technique analyzing the data. It is also refered as system or technique or technology or practices and applications. These techniques are used to analyze the critical business information. With this information organizations can understand their market and business and they can take the timely business decisions. Data should be analyze in the best way to gain the fruitful improvements in the business. Business analytics must have the more knowledge on analysis process and data mining concepts. The companies who are using analytics in their business are gaining the profits and they are make improvements and changes in their business startegy.

2.3. Challenges of Big Data:

The challenges of Big Data in the real implementation which have been required immediate attention. With out handling these challenges while implementation it may leads to failuer of the implemented technology and it will give some irrelavent outcomes. The challenges of Big Data are:

- **Privacy and Security:** It is very important challenge in the big data. It is technical, sensitive and legal significance. While we combined the personal information of a human with the external large datasets may

leads to provide the new facts about that human. It may secret data of that person which he don't want the other people to know about them. Most of this issue occur in Big data while we store and compute the data.

- **Sharing of Information and Data Access:** The data which is available in the organization is used to make perfect decision in time. These data is used to improve the business and productivity. Sharing the information about their consumer may leads to operational threats to the secrucy and compitiveness.

- **Incompleteness of the data:** Incomplete data nothing but missing data. It is also a major challenge in big data when we analyze the data. It must and should manage when we analyze the data otherwise it will give the uncertainties result.

- **Manpower and Human resources:** Big data is the emerging technology. It should attract the organization and youth with learning of new skill sets. These skills not only in the technical ones but also in the creative, analytical, research and interpritive ones. Every university needs to provide syllabus on Big Data to produce skilled employees in the technology.

- **Heterogeneous Data:** Heterogeneous data is nothing but unstructured data. It will represent the all types of data such as interaction of social media, meeting recorded, fac transfers, emails, and videos etc. Analyzing the Heterogeneous data is critical and also costly. Structured data always in the well formed and managable way but unstructured data completely unorganized and raw.

- **Quality of Data:** Analyzing the more data will give the better resut for the business so, business leaders always wants the more and more data storage,where as IT leaders will consider the technical aspects of the data storing. Big data focus on the quality of the data rather than the huge irrelavent data. It may leds to rise questions such as how much data is enough for decision making, how it can think that which data is relavent, and the store data is accurate or not.

3 BIG DATA AND ITS BUSINESS IMPACTS:

Many more organizations are not know much about the big data and how it is benefit for their organizations. IBM conducted a survey on large and mid sized organization about the implementing of Big Data strategy they has been identified that 12 percent of organizations are implemented big data in their organization and 71 percent of organizations are in the planning stage[4]. With this we can easily understand that firms should have the knowledge of consumer, products, and rules with using the big data. With the help of big data firms can find the new ways to compete with other

firms. Big data is using to make the future decision in the organizations. There are three types of decision can be made by organizations with using the big data they are future decisions, decisions that makes difference and smarter decisions. Every organization is taking the decision based on the transactional data. But we have another data which is non traditional and semi-structred information such as email, photograph, social media and videos. This data can be make the effective decision in the business. We have some tools to analyze such type of data in Big Data. I have been given the brief description of the tools in below.

3.1 Tools used to analyzing the Big Data:

We can analyze the structure, semi structure and unstructure data with using the Discovery tool, BI tools, In-Database Analytics, and Hadoop[5].

- **Discovery Tool:** Business analysts are using the discovery tool to provide the advanced analytics and useful information from the datasets. Delevery tools are very useful in the entire lifecycle of the information for quick analysis of data from the structured as well as unstructured data.

- **BI Tools:** BI Tools are providing the enterprise reports, score cards, dashboards, enterprise scale platform and ad-hoc analysis.

- **In-Database Analytics:** In-Database Analytics allows the information process with in the database with using the creation of analytic logic into the database itself. In-Database Analytics system having the EDW full form is Enterprise Data Warehouse which is built on an analytical database platform. Those platforms are provided scalability, parallel processing, optimization features towards analytic operations and partitioning. Companies are using this technology to findout the pattern recogniation, fraud detection, credit scoring and risk management.

- **Hadoop:** Hadoop is a java based programming Big Data framework and also an open source framework. It is used to process and store the large amount of data sets in distributed network. We can run the hadoop application in the large network which is having the commodity hardware. This framework can continue its work when the node is faile in the network. There are various types of processing and analysis with hadoop they are:

  - **MapReduce:** MapReduce is a programming model which is used to process the data. It can develop using various types of languages. Hadoop can run the MapReduce programs. MapReduce programs can develop in Ruby, Java, and Python. Developer needs to develop two methods such as Map and Reducer. Map and

Reducer methods having the data set in the form of key value pair.

- **Hadoop Distributed File System (HDFS):** Hadoop distributed file system is designed for the storing very large amount of data files with the streaming data access patterns and it can run on commodity hardawares. It is highly fault-tolerent and run on commodity hardware aslo called as low cost hardware.

- **YARN (Yet Another Resources Negotiator):** Yet Another Resources Negotiator was introduced in Hadoop 2. It is a resource management system of Hadoop's cluster. Main purpose of YARN is to improve the MapReducde implementation.

- **Flume:** Flume is designed for moving or ingestion the data into Hadoop. For example the log file are collected from the web servers and move the logevenets form those logfiles into HDFS for processing.

- **PIG:** It is a high level of abstraction for the processing of large amount of data sets. With pig the structure of data is very rich, multi valued, and we can apply the transformations to the much powerful data.

- **Hive:** Hive is the data warehouse which can facilitate the writing, reading, and manage the huge amount of datasets which are residing in the distributed storage using SQL (Structured Query Language).

- **HBase:** HBase is a distributed and column oriented database which is built on the top of the HDFS. This can be used when we required realtime read or write random access to the huge amount of datasets.

- **NoSQL database:** NoSQL also refered as Not Only SQL database. It is mainly design for target huge set of distributed data. It is a Database design which is implement the document store, key-value store, graph format for data and column store.

These tools are useful to analyze the structured, semi-structred and unstructured data. Managing, storing and processing of huge data is critical in every organization. Implementing the Big data tools in their organization they can easily manage, process and store large data.

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3.2 Important of Big Data Analytics in Business:

Big data analytics will help the organizations to analyze their huge data and help to identify new opportunities. Big Data is having the variuos goals shuch as reducing the cost to process, analyze and store the data, reduce the time to process and analyze the data, giving the support to internal business decisions, and implementing new big data based offerings[6].

- **Reducing the cost:** Hadoop is a framework of Big Data. It is used for storing the large amount of data in the distributed cluster. Hadoop framework can allow the thousands of commodity hardawares or nodes to connect in the clustor. It will reduce the cost for high performace nodes. One year storgae cost of one terayte of data is $2000. This price is 800 time less than the relational database.

- **Reduce the time:** Macy's merchandise pricing optimization application is used to calculate the data sets. It will take the seconds are minits to calculate the data sets which takes hourse for calculation with using traditional techniques.

- **Support Internal Business Decisions:** Analyzing the large amount of data means gaining the more knowledge and benefit. Decision making is very important in every business. Decision like what type of new product needs to release in the market and offered it to people? What is the quantity needs to produce in the market? And How much of the cost needs to kept on the product? The main aim of the Big data is to give the assit to the internal organizagtion decisions because with using the Big data analysis decision makers can identify the people interest and opinions.

- **Implementing New Big Data based Services:** Big data must and should used for implementing the new services and products. Best example for this is LinkedIn. LinkedIn has been used big data to develop the services, offerings and products such as your interested jobs, people you may know, who viewed my profile and some other. So this idea has been increase the interest of people to use LinkedIn.

3.3 Big data can change the every business:

If any organizagtion think that Big data is not useful for their business then it will loss the more improvement and profit in their business. Big data will affect the every business. In the below ways Big Data will change the every business they are:

- **Data is the important asset to any business:** Data is generating with in the large business and small business also. If the business is having its own website, acceptance of credit or debit cards and a social media page then it will generate more data such as customer opinion, consumer

experience and webtraffic. So, every business include small business also needs to analyze the data, strategy for big data i.e. how to collect data, use data and protect the data. I think organization which are not using the big data analytics might be afried of catchup the technology. It as much as easy to understand that if you are thinking about the improving your business then data will be the important asset to your business. Analyzing these data will improve your business.

- **Big Data will collect the consumer intelligence and better market:** Peoples are giving the importants to the services from the organizations where they can get relavent information about their searched product. People interacting in the social media to share their feelings. Social media is generating much large datasets. It is not possible to mine such large amount of data with using traditional datamining concepts. Big Data analytics are the solution for the analyzing and store the large datasets. By understanding the consumer interest every organization can release better products and services and they can also gain the interaction of the customers. It will improve the business as well as it will bring the profit to the business. Every business needs to protect the user data.

- **Big Data will improve the internal efficiency and functioning:** Nowadays sensors play a major role in every business. These sensors are used for detecting the machine performace, employee performace, and optimizing the delivery routes. Big data is having the capacity of improve internal efficiency and funcaitoning in any type of business. Organizations are started to track the health conditions, stress of their employees using the sensors. They also tracking the shipments by using the sensors. More data generating in the organization. Data is the integral part of every business.

- **Big data will allows the organizations to improve the product quality and customer experience:** Collected data is used to improve their products and customer experience. Best analysis will give the better outcome of product. We have to consider the customer experience and the market value of the product while we introduce a new product. John Deer is the best example for the utilizing the data to provide benefits to their consumers and also new product offering. John Deer tractors are fully equiped with the sensors which are help to farmers in planting, ploughing and reaping.

This way Big Data will change the every business. I pridict that with in the few years all types of organizagtions can use the big data processing to improve their business.

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4. CONCLUSION:

Each business should be execute Big information innovation to enhance their business. Consummate choices in time is essential in the a wide range of business. Idealize choices can made by breaking down the hierarchical information which have been produced from their sites, online networking and machinary, for example, sensors. Breaking down the more information will give the better outcome. Huge information will examine the huge datasets which are in the extent of more than tera or petabytes. So Big information will give the better come about for taking the ideal choice to enhance the business. Solid systematic aptitudes requires to examine the expansive datasets. Along these lines, the colleges should make a syllabus on the Big information to create gifted workers. Enormous information explanatory can help to organizagtion to distinguish the buyer desires, their feeling on the item, and which kind of changes needs to take in their growing new item and their business procedure. Huge information is having the huge measure of uses in the business. With this examination I can state that Big Data will change the each business.

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AUTHOR DETAILS

Revathi durgam-M.Tech Assitantprofessor, AVN Institute of Engineering and Technology Email:revathidurgam@gmail.com

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