Big Data Impact on Business Decision-Making

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Abstract - "Is "big data" an alternative to the word "analyst"? Of course, both are connected: big data The movement, like the previous scans, aims to collect information about the information data and interpret it in such a way that effective strategic business decisions. It's something that changes the way you play Big Data. Because of the huge As data grows, it is necessary to seek and provide solutions to process and extract values and insights of these records. In addition, decision makers need access to important information from such diverse sources and rapidly evolving data, from day-to-day operations to customer interactions and social media data. As The value of can be derived using big data analysis, which uses large dataset analysis techniques. Successful organizations benefit from doing business by analyzing big data. This has received great recognition Recently, however, several difficulties are one of the important reasons for the inhibition of association development. THE , the main problem is that these organizations do not start planning the implementation of big data strategies because they have little knowledge of big data and don't understand the benefits of big data. This article aims to clarify the concept of big data by examining data science-based decision-making about what comes next used for business decisions.

Key Words: Business Decisions; Big data; Data Science; Data-Driven Decision Making

1.INTRODUCTION

Currently, the volume, variety, and speed of sourcing primary data from individual consumers is unprecedented, resulting in what is known as. Big data revolution. The big data revolution will potentially lead to a comprehensive understanding of consumer behavior and the formulation of market strategies. Although big data is considered a new form of capital in today's market, many companies do not benefit from it and need to allocate adequate physical, human, organizational and capital resources to sustain this new form of capital. With the development of the Internet over the past decade, it has led to the production of large amounts of data in all types of businesses. The development and application of technologies to efficiently use vast amounts of information available on the Internet for decision-making is associated with big data.The advent of new technologies means that we produce huge amounts of data every day. Big data has created a competitive environment for business, so the importance of big data is not lost on universities, corporations and governments. This data integrates activities such as complex troubleshooting techniques. Data plays a key role here. Big data infrastructure projects are used to facilitate this process. Issues such as business intelligence, marketing intelligence, customer health, safety and well-being are also related to the properties of Big Data, which is why Big Data interests researchers, businessmen and politicians. On the other hand, most big data related to clicks and data transfer via mobile devices requires high speed, which can be used for short-term forecasts with high accuracy [1-14]. For this reason, big companies like Google and Facebook, which can analyze huge amounts of data, want to create new companies and explore big data. In today's digital environment, companies generate different types of data every day. However, the amount of data is so large that you cannot collect and analyze manually. This is where data science comes into play. Data Science Applications complex algorithms, technological tools and mathematical techniques to transform raw data into useful information. It connects Big data, machine learning, artificial intelligence and predictive analytics to "understand and analyze real events" with dates.

2. LITERATURE SURVEY

Affects their organizations and how it   benefits their organizations. A review was conducted which found that the top 12 % of associations are building or implementing a big data system and 71% of associations will start   arrangement scene. It is clear that associations need detailed information on customers, products and policies in order to help them Big data associations can find better approaches to compete with other associations. Companies use big data to evaluate their future decisions. The types of decisions organizations can make based on Big Data are better decisions, the future decisions and decisions that matter.Companies make business decisions based on conditional data   past and present, but there is another type of data, for example modern, less structured data blogs, online conversation, email and photos that can be used to make compelling business decisions. products for collects and organizes this type of data and analyzes it in the market. Oracle's big data solution consists of 4 phases , which consists of capturing big data, organizing big data, analyzing big data and making decisions based on those analyses. Three models has also been described for extracting values from large datasets. The first model is to extract, transform and load the ETL. the following The   model consists of interactive queries.The third model is predictive analytics. Intel uses Big Data and it helps accelerate the innovation process.Big Data Analytics offers an evidence-based decision support system across all industries. Data-driven decision-making requires the use of appropriate principles, processes, and techniques in collecting, analyzing,

reviewing, and interpreting data to extract meaningful insights and insights from data generated from various sources to support decision-making. Playing a key role as an agent of the fourth industrial revolution, big data refers to volumes of data exceeding 1018 (exabytes) that require data processing technology to manage and process. Big data analytics is based on the 7Vs of volume, velocity, variety, truth, value, volatility, and visualization. Volume refers to the amount of data collected by the vast majority of the world's population using internet-connected digital devices such as mobile phones, desktop and laptop computers, and handheld devices.Speed is the rate at which data is transmitted and processed in real time. Diversity refers to different sources and formats of data The digital transformation to effectively derive value from data to achieve performance excellence will require fundamental changes in the culture of the organization and total commitment and the support of the top management. The top management must demonstrate its commitment to the use of data science through the provision of process measurement systems, capturing and analyzing data, and access to a team of data scientists with strengths in different areas of data science to achieve performance excellence. Hence, it is imperative that the leadership ensures that digital technology for collecting data from all the operations of the organization is integrated into the organization's processes. The ability to utilize data science techniques to understand and analyze the organization's large data sets will contribute to the ability of the organization to achieve performance excellence. Data science techniques provide data scientists with the ability to process and extract knowledge and insights from data through the theories, technologies, and processes that are provided by data analytics

3. METHODOLOGY

Companies built around big data include Google, Netflix, LinkedIn, Facebook, and Coca-cola a few of which examples are explained as well in the latter. These companies did integrate big data with their existing sources of data. A process has been described (in Figure) for the organizations that are interested in adopting Big Data.

The stages of this process are as follows

• Decision criteria include dependency on social, technological and economic factors.

• Various scenarios that organizations can choose for big data, such as: B. Candidate scenarios such as "high demand" and "conservative". optimistic.

• Data warehouses, cloud, integrated analytics tools and big data visualization are just a few of the technologies involved Candidate Technologies Global Market Size, Company Adoption Rate, Barrier To Entry, And Industry Strength are some technology assessment indicators

• Implications of technology planning for the high demand and cautious optimism scenarios
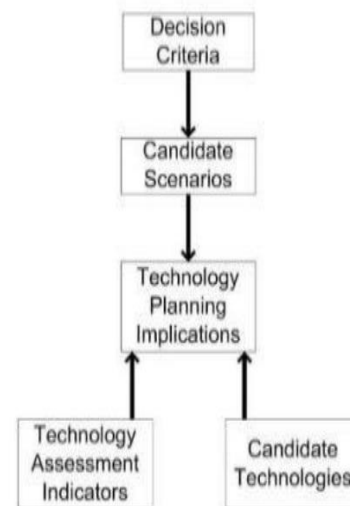
In addition to these opportunities, you can use big data to achieve the following different goals.

• Cost Reduction – Hadoop is a framework for storing massive amounts of data in distributed clusters. in the hadoop cluster, , the annual cost of one terabyte is $2,000. That's 800 times smaller than traditional relational databases.

• Reduced Time: Macy's Commodity Price Optimization App calculates records in seconds or minutes , which can actually take hours to estimate

4. CONCLUSION

Big data needs to be integrated into the organization's architecture, even if the organization is well-established and large companies. Countries around the world, IT companies and relevant departments have started working on big data. The organizations powered by Big Data include Google, eBay, LinkedIn and Facebook. The use of big data analytics in industry processes can increase industry efficiency and agility. Sending big data to analytics improves performance predictors that enable decision makers to use more data to take more action to achieve business goals, By using big data analytics, companies can already anticipate unexpected events and improve process efficiency.Companies benefit from operational processes through lower inventory levels, reduced costs and better work organization , the best operation plan and eliminate waste of resources, which also helps to increase efficiency. 63 percent organizations indicated that using big data is beneficial for their businesses and organizations. Organizations over 70 % of customer and product data is used to make business decisions.A performance measurement system must be aligned and integrated with the organization's strategic goals to effectively provide data and information to support performance improvement. However, the effective use of data to measure, analyze and improve performance depends on the quality and

availability of data to support up-to-date information. The management, effective use, analysis and improvement of data, information and insights are essential to support 's strategic processes that lead to excellence. The ability to leverage big data analysis skills as well as organizational resources and skills will greatly help in achieving excellence. Identifying and extracting valuable insights from large amounts of data about a company's operations can be of great benefit in terms of performance metrics.A performance measurement system must be aligned and integrated with the organization's strategic goals to effectively provide data and information to support performance improvement. However, the effective use of data to measure, analyze and improve performance depends on the quality and availability of data to support up-to-date information. The management, effective use, analysis and improvement of data, information and insights are essential to support 's strategic processes that lead to excellence. The ability to leverage big data analysis skills as well as organizational resources and skills will greatly help in achieving excellence. Identifying and extracting valuable insights from large amounts of data about a company's operations can be of great benefit in terms of performance metrics

5. REFERANCES

[1] Lee, M., Yun, J. J., Pyka, A., Won, D., Kodama, F., Schiuma, G., . . . Zhao, X. (2018). How to Respond to the Fourth Industrial Revolution, or the Second Information Technology Revolution? Dynamic New Combinations between Technology, Market, and Society through Open Innovation. Journal of Open Innovation: Technology, Market, and Complexity.

[2] Ishaq Azhar Mohammed. (2019). A SYSTEMATIC LITERATURE MAPPING ON SECURE IDENTITY MANAGEMENT USING BLOCKCHAIN TECHNOLOGY. International Journal of Innovations in Engineering Research and Technology, 6(5), 86–91. Retrieved from

[3] Baldrige Performance Excellence Program. (2019). 2019–2020 Baldrige Excellence Framework: Proven Leadership. Gaithersburg, MD: U.S. Department of Commerce, National Institute of Standards.

[4] Obitade, P. O. (2019). Big data analytics: a link between knowledge management capabilities and superior cyber protection. Journal Big Data.

[5] Zhou, K., Liu, T., & Zhou, L. (2015). Industry 4.0: Towards Future Industrial Opportunities and Challenges. 2015 12th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD). Zhangjiajie, China: IEEE.

[6] Colombo, A. W., Karnouskos, S., Kaynak, O., Shi, Y., & Yin, S. (2017). Industrial Cyberphysical Systems: A Backbone of the Fourth Industrial Revolution. IEEE IEM, 1-10

[7] Ishaq Azhar Mohammed. (2020). USABILITY AND PRIVACY IN ACADEMIC LIBRARIES: REGAINING A FOOTHOLD THROUGH IDENTITY AND ACCESS MANAGEMENT. International Journal of Innovations in Engineering Research and Technology