International Journal of Academic Information Systems Research (IJAISR)
ISSN: 2643-9026
Vol. 5 Issue 10, October - 2021, Pages: 8-16

Utilizing Big Data Illustrative Case in Public Services

Muthna Harith Younus Hamraaia[1], Akram M. ALhamad [2], Bilal Eneizan[3], Marwan Al-salaymeh[4]

[1,2]Faculty of Business, Karabük University, Kastamonu Yolu Demir Çelik Kampüsü, 78050 Kılavuzlar/Karabük Merkez/Karabük, Turkey.

[3,4] Business school, Jadara University, Jordan

Abstract: *By increasing the challenge for organizations that really want to benefit from searching for large amounts of big data, the amount of information that is generated and transmitted across the network has grown exponentially. This is because big data can provide specific insights into market trends, buyer's buying patterns, and maintenance cycles, as well as ways to cut costs, and can provide organizations with more targeted options. This is due to the fact that big data can provide unique insights, particularly in market development, customer shopping patterns, and replenishment cycles (such as cost-cutting techniques and more focused business decisions). Data networks and cloud computing have led to an explosive growth of information in nearly every enterprise and business location. Big data is rapidly becoming a hot topic, and is attracting significant interest from academia, industry, and governments across the industry. In this role document, we first briefly introduce the concept of large statistics, including their definition, functions and costs. Then, from a different perspective, define the meaning and potential that the great record brings. Then, abandon the big data projects on a global scale. described the key challenging situations (for example, data complexity, computational complexity, and equipment complexity), and the possible solutions to these challenging situations. Finally, concludes this article with several tips that erode big data plans.*

Keywords: Big Data, Public Service, Utilization of Big Data.

INTRODUCTION

In order to process and verify flood records, the concept of big data and its applications have been widely adopted in recent years. Defined big data is a challenging and fast technology that requires new types of integration to discover a large hidden value from a changing, complex, and large-scale large data set. IDC describes Big Data technology as "a completely new technology and architectural technology designed to extract the economic value from a very large amount of data from a massive recording model by allowing too quickly for capture, discovery, and / or evaluation. According to the definition above, we determined that the records are vast. Scope and their applications are recording techniques that improve current selection techniques[1]. A large amount of statistical information will appear during this time period of records, and these records cannot be processed using traditional tools. In various terms, large data sets require complex data called large statistics. And, this data is not always processed manually (traditional methods of organizing or organizing big data). However, the qualitative analysis of the main factors that distinguish big data from small data are the size of the data set and the availability of many texts, snapshots, movies, and sounds. Unique types of information can be covered, including structured and unstructured statistics, semi-existing data, multiple copy records, and history. V Streamed that includes various factors, including text language, from specific hardware or web software. From the packaging [2][3]. In 2001, Emerging characteristics of large logs were determined to have three V values (volume, velocity, and range). In 2010, more than 1 ZB of information was created globally IDC put out huge statistics for 4V use (quantity, range, speed, and cost) Also in 2011, a slew of records were announced as the next area of productivity, innovation, and resistance, and it increased to 7 ZB in 2014, and finally, in 2018, the number of Internet customers increased by 7.5% compared to 2016, reaching more than 3.7 billion.

Volume refers to generating a large amount of statistical information every two seconds which is appropriate for the scale and size of the data set. It is impractical to set specific thresholds for statistical large data (that is, the data that make up a "large data set") because time and data type influence its definition. Currently, datasets in the Exabyte (EB) or ZB layer are usually big information, but harsh conditions still exist for smaller datasets. For example, Walmart collects 2.55 petabytes of data from over a million customers every hour [4] Nowadays, there are tons of statistical resources everywhere in the arena. Processing statistical information can be obtained from meters, radio frequency identifiers, social network message streams, weather data, remote sensing, mobile device user location information flows, and instrument, audio and video records. Therefore, with the increase in the number of users of large records around the world, an indispensable new field of research is being linked. The widespread distribution of times and the incremental model of using these specific forms of tools and services is the starting point for large-scale standard breakthroughs in nearly all areas of human preference (such as economic regions and public administration). These days, the massive amount of data and the continuous colossal boom of human-generated information and related systems has become very disturbing, but does it really know what super stats are and what are the different definitions of this period? The recommended path? For example, there was an article in Forbes in 2014 related to this controversial query that provides a brief record of the time period basis, provides some current drivers and big data schemes to improve basic knowledge of the phenomenon. After this, the Berkeley School of Statistics again released a list of more than 40 definitions of the term. Since big statistical data covers many fields and departments, the meaning of this time period has to be determined specifically according to the hobbies of the single employer / individual. For

example, when evaluating big data related to the industry in the definition of "V", Dr. Evo Deneuve included any multidimensional characteristics of other data in his scope of research, including statistical length, incompleteness, consistency, complexity, and more. Nature of scale and heterogeneity [5]. However, the problem with first-class big data storage is the insufficiency of a medium that contains lots of physical facts[1][2]. Faced with countless statistics, modern devices cannot handle storage operations within a few seconds. The method of selling a large number of unorganized or heterogeneous records from different fact collectors in service, manufacturing, logistics, and other fields can be really challenging [6]. The problem with first-class big data storage is the insufficiency of a medium that contains lots of physical facts. Faced with countless statistics, modern devices cannot handle storage operations within a few seconds. The method of selling a large number of unorganized or heterogeneous records from different fact collectors in service, manufacturing, logistics, and other fields can be really challenging. [6][5] Any other problem is that the statistical data is very large and it is difficult to create groups, insert, replace and delete, because such operations take a long time when the whole unit of record is cleared. It is difficult to effectively maintain the information captured in a group using the latest in database or data warehouse technologies [4][7]. The main objectives of this article can be defined as follows:

1. Find an appropriate solution to a problem the insufficiency of a medium that contains lots of physical facts to big data storage.
2. Identify from different perspectives the significance and opportunities that big data brings.
3. Facing countless statistics, modern devices cannot handle storage operations within a few seconds.

LITERATURE REVIEW

The time period "big data" has become a buzzword, so it is often overused and misunderstood. Although the framework we are discussing in this article can effectively record records of various sizes and complexities, the idea has very large data. Some of the smaller jobs may not be your high-quality requirement. Therefore, the first step in choosing between big data frameworks is determining whether it is needed. In order to try it, it is important that you understand what constitutes great information. This stage introduces the definition of big data and discusses the challenges associated with it [7] Big data has many characteristics related to statistics, so the actual definition of large records remains elusive. . One of the definitions is the use of that provided by Senthil Kumar et al. Connect Big Data to 6 V: Range, Variety, Speed, Originality, Variety, and Price. The quantity relates to a large amount of data generated by the organization. It varies with the specific encoding of the data, for example, prepared, partially organized, or unstructured. It covers the speed of manufacturing, delivering and handling incidental records. Authenticity reflects the correctness of the record. The changes are related to the fluctuations recorded. Cost, also known as big information analysis, is a technique for extracting information for making effective decisions. Scope refers to the distinct format of information, such as organized, partially organized, or unorganized. Speed covers how statistical data is made, provided, and mistakenly processed. Reliability reflects data validity; Volatility is related to volatility of information. Value, also known as big data analysis. This is a logarithmic extraction method that can be used to make powerful decisions [8]. This is the generation of big information. Big data has fundamentally changed the traditional records evaluation system. In order to evaluate such large and complex statistical data in any form, an expansion of hardware architecture is imminent. If you have to meet your needs within a reasonable time, choosing the right hardware / software platform becomes an important choice. . Researchers have built new data analysis techniques for ever larger data, resulting in continuous improvements in many specific algorithms and systems [6].

The big data analysis employed by AI is full of hope, because while these technologies face uncertainty, they bring a variety of challenges. For example, each V attribute contains many uncertain assets, including unconfirmed, incomplete, or loud statistical information. In addition, uncertainty can be included in the entire analysis process (for example, gathering, organizing and analyzing large statistics). For example, dealing with incomplete and ambiguous records is an essential task of most statistical mining and machine learning strategies. Additionally, if there is any education record bias, the ML rule set may not be able to obtain the final score for the gold standard. Six preconditions are set in the analysis of big information, including uncertainty. They are particularly aware of how uncertainty affects the overall performance of mastering statistical big data, and another challenge is to mitigate the uncertainty inherent in large data sets. These challenges usually advance ML mining statistics and strategies. Correct measurement of these concerns, even reaching the level of large stats, will exacerbate any errors or shortcomings in the overall method of analysis. Therefore, reducing uncertainty in the analysis of large records should be the first task for any automated method, since uncertainty will have a major impact on the accuracy of its results. [4]. Although developing countries have many development aspirations, they may overshadow the need to spend money on big data technology in a short period of time. Although this is an area that is not important at the moment, it lays a solid foundation. This will provide an explanation for the decreased focus on controlling the demand for big data due to the enterprise stage. For example, in Ghana, despite measures currently in place [9], it is difficult to define records management rules, especially to change the extensive records control rules at the national and institutional levels. Many organizations need to maintain a large amount of statistical data and related non-traditional data structures. Several factors have also been implemented to broaden the records monitoring capabilities of the organization and to broadly improve the statistical control software product range for information management.

These measures help to gradually increase the degree of automation of business processes, and the end result of these methods is Big Statistics Management (BDM). Statistical data bulky must be fully placed in the company's statistical data controller. In addition to the short-term development of information engineering, the ability to obtain, analyze and control large amounts of information is becoming increasingly important to stores intending to improve their business and overall performance. Although the important goals to be achieved are correct customer enjoyment, operational efficiency, loyalty and retention of customers, expectations about effective inventory control, coins, and normal profitability are high. Instead, a lot of research on a lot of log analysis makes technology improvement or hardware optimization a specialty. Research has been conducted on the use of big data analysis to understand consumer relationships and research. However, due to the greater amount of control over information, research on the impact of buyer satisfaction, and overall organizational performance in the retail sector, research in the retail industry [2] has decreased due to the widespread availability of statistical data, its multi-channel sources, and diversity The initial cause of the demand for cost-effective use, the company invested heavily in databases and analysis equipment to provide a basis for the decision-making process. In this regard, one way to avoid insightful comments outside of wasted resources and to avoid pricing production for negative results on performance is to prioritize data in relevant and higher terms. The purpose of this insight is to analyze technology by examining growth and volume to assess the availability of big data and the role of prioritizing big data so that it can be used very reliably in the selection process and overall performance. Focus on the SCM context. The results support an important association between the availability and use of large statistics in SCM decision-making, and as indicated in the notes, support for prioritizing large-scale information is important for SCM decision-making by extending the evaluation of the association between large records and usability and usability in SCM decision-making. We provide experimental contributions to a lifetime of value for large records. [10]. This note discusses the use of Big Information Analysis (BDA) as a method of investigating Information Systems Research (IS). From a holistic perspective, we understand that BDA is a statistical model of a huge, diverse and dynamic statistical mixture of people-generated content material and digital footprints. The BDA, as a new paradigm that uses a large number of statistical resources and advanced analysis, has defined its methods in some social science disciplines. Sociology and economics are examples of BDA that effectively make fun of medical inquiries. In general, the BDA attracts some unfamiliar methods and tools for information systems researchers (for example, predictive modeling, natural language processing). Follow the standard search methods. [11].

Big data is a collection of large-capacity, multi-layered data flows arising from heterogeneous and independent information assets. Size is the main function of large-scale records and is represented by purchasing garage areas in large-scale information facilities and adjacent garage networks. Now, the length of the large statistical data will not only result in heterogeneity of the statistical data, but it will also lead to different dimensions in the data set. Therefore, efforts are needed to reduce the degree of proper screening of large records. Moreover, massive data flows must be processed over the Internet to avoid wasted garages and auxiliary equipment processing. The second major advantage of large logs is speed. Speed refers to the frequency of the data flow, and the speed must be shortened to successfully process large amounts of statistical data. For example, the Solar Dynamics Observatory generates 1 TB of additional information consistent with today and better evaluates this type of fast big data after discount or aggregation. However, big data inherits the "curse of dimensions." In other words, thousands of dimensions (variables, features, and attributes) must be successfully minimized to reveal patterns of maximal knowledge[12]. In the past ten years, the Comprehensive Record Analysis (ABDA) program has been the primary research hobby for researchers and practitioners. According to current research, in many industries, ABDA is the main driving force for regulatory enforcement. In addition, CEOs' awareness of the powerhouse benefits associated with ABDA is rapidly growing. Annual public and private funding for large-scale records analysis programs has increased significantly to billions of dollars worldwide. Because of its high strategic and operational potential, ABDA can improve the efficiency and effectiveness of an organization, and it can be a game-changer. High performing groups consider ABDA to be an important differentiating factor and a strong aspect of its prosperity. [13].

Large IT departments have made significant adjustments to their data acquisition, gifting, and review strategies. The cost of finding credit information is greatly reduced, and the collection of credit statistics has changed from negative data retrieval to active information accumulation. In this article, we take the view of statistical economics to analyze how log signals and search rates affect data asymmetries in the lending business, and examine how big data can reduce statistical discrepancies in (Peer-to-peer network) P2P lending. Rooted in the P2P lending business, we discussed the economic price of big information, and outlined several business opportunities and some serious research issues [14]. Big data analysis has attracted widespread interest from academia and industry because the demand for knowledge trends for large data sets is increasing. The current capabilities of sensor networks, cyber-physical engineering, and things ubiquitous (IoT) have led to the ever-expanding collection of data (including care Health, social media, smart cities, agriculture, finance, training, etc.). But the data collected from sensors, social media, financial data, etc. is inherently uncertain due to noise, incompleteness and inconsistency. Analyzing such a large amount of statistical data requires excellent analysis techniques to review and / or accurately predict future mathematical evidence with extremely high accuracy and excellent decision-making strategies. As the number, range, and speed of statistical data increase, the uncertainty inherent in them also increases, which leads to distrust in subsequent analysis actions and the choices made. Compared with traditional scoring strategies and systems, AI technology (consisting of machine learning, herbal language processing, and computational intelligence) can provide efficient, faster and scalable results in analyzing big data. [4]. In smart city management and planning, large records and standard digital technologies are critical. Many scientists at City Research believe that new types of big data analysis could guarantee benefits in real-time

forecasting, deployment, increased energy efficiency, better lifestyles, and ease of navigation. The ubiquitous virtual technology embedded in the physical form of the city allows these beneficial effects to be applied. The vision is to connect sensor components to the computing architecture across a network of things so that information flows continuously, thus providing new options. In some cases, this method can be automated without human intervention. [15]. Analyzing big information related to database search, mining, and evaluation can emerge as an innovative IT function that can improve the overall performance of a company. Although some leading companies are actively adopting a lot of statistical analysis to enhance market competitiveness and open up new business opportunities, many companies are still in the early stages of the adoption curve due to lack of knowledge and enjoyment of big data. Therefore, understanding the issues related to the widespread adoption of statistics is very exciting and timely. Our preliminary investigation revealed that a company's efficiency in maintaining large company records may be positively affected by large log analysis goals. In addition, the company's favorable expertise (i.e., awareness acquisition) may wish to use information from external sources to encourage future acquisition of big data analysis. To some extent, the firm's positive experience in using internal source records (i.e., insights acquisition) should hinder its intention to use it for big data analysis [16]. Service and production department records have grown significantly, and enthusiasm for visualizing large amounts of statistical data has increased. This article examines the wide-ranging enrollment procedures of consultants in traditional services such as finance, economics, healthcare, supply chain control (SCM), and manufacturing. Cutting-edge technologies are being reviewed from the main drivers of garage technology, record processing creation, data visualization technology and log analysis at scale, models and algorithms. Next, this article conducts a conversation by reading the current actions of SCM's big data in global carriers and manufacturing companies in the northern United States, Europe, and the Asia-Pacific region. In addition to interpreting big data and big data, it will also focus on changing attitudes and perspectives about probability and destiny, in addition to data correlation, information transfer, record storage, big information processing technology, and large-scale selection models that support information. Way. Accurate statistics [17]

SIGNIFICANCE OF BIG DATA

Given its great value, big data has fundamentally changed the way we live, work, and think. Below, we describe the importance of big data in detail from various perspectives.[18]

Significance to National Development

At present, the world has fully entered into the technology of the Genesis Age. The full use of the Internet, the Internet of Things, cloud computing and many emerging IT technologies have led to an unprecedented increase in statistical resources, and the types of systems and records are becoming more and more complex.[19] The use of density analysis and large records will play a vital role in promoting "sustainable financial prosperity and beautifying companies' competitiveness" in various countries. In the future, the big record will become a new point of financial prosperity. With the help of a large amount of information, the agencies will improve and redesign assessment as a service (AaaS) methods, thus changing the environment for different IT and industries. In this case, the global IT giants (made up of IBM, Google, Microsoft and Or-acle) have begun planning technological improvements in the era of big data. At the state level, the ability to collect, process, and use large amounts of statistical data is a new milestone in state power. The information supremacy of a nation in cyberspace could be another private mathematical space besides Earth, oceans, atmosphere, and outer space.[20]

Significance To Industrial Upgrades

Nowadays, a large amount of statistical data is an extraordinary problem faced by many attempts to use the Indus River, and it has caused a huge situation that requires a great deal of information and digitization in these industries. Research on common big data issues, particularly research on breakthroughs in centralized technology, will enable the industry to take advantage of the complexity created by interconnected information and the uncertainty caused by information redundancy and / or scarcity of information.[21] Everyone hopes to come out of the big records to be paid for configuration, understanding, and even intelligence, and ultimately from the big costs of big data. This means that records are no longer a by-product of the economic sector, but rather the main link for all factors. With this in mind, the common problems of big data and medium technology focus can become the focus of new IT and IT software packages. Now, this is not the simplest driver to maintain a record of excessive growth for an organization, but a new tool for the industry to improve its competitiveness.[22]

Significance To Scientific Research

Big data prompted the scientific community to rethink scientific research methods and completely change scientific thinking and methods. As we all know, the oldest scientific research in human history is based on experiments. Since then, theoretical technical knowledge has emerged, made prominent by complying with various legal standards and theories.[23] However, since theoretical evaluation is too complex to solve potential problems now, people first began to look for simulation-based methods, thus developing computational science. The emergence of a large number of statistical data gave birth to new research models. For big data, researchers may only want to find or extract the necessary records, knowledge and intelligence from it. Therefore, they do not want to immediately delay the search. In 2007, Turing Prize-winning Jim Gray described the fourth paradigm for in-depth information in

clinical research in his last speech, which distinguishes science that relies on a large number of records from the computational science.[24]

Significance To Emerging Interdisciplinary Research

Big data prompted the scientific community to rethink scientific research methods and completely change scientific thinking and methods. As we all know, the oldest scientific research in human history is based on experiments. Since then, theoretical technical knowledge has emerged, made prominent by complying with various legal standards and theories. However, since theoretical evaluation is too complex to solve potential problems now, people first began to look for simulation-based methods, thus developing computational science. The emergence of a large number of statistical data gave birth to new research models. For big data, researchers may only want to find or extract the necessary records, knowledge and intelligence from it. Therefore, they do not want to immediately delay the search.[23] In 2007, Turing Prize-winning Jim Gray described the fourth paradigm for in-depth information in clinical research in his last speech, which distinguishes science that relies on a large number of records from the computational science.[25]

Significance To Helping People Better Perceive The Present

Large-scale statistics, especially large-scale network logs, contain a lot of community information, so they can be considered community-based. For this surrender, analyzing large records, implicit summary and identification of implicit legal clues and guidelines can help us better understand the list. Deep mining information contained in the large registry can also help people make more choices.[26] For example, in the US presidential election in November 2012, Barack Obama's campaign staff studied the big records to help Obama defeat and reelect Romney. In the eighteen months leading up to Election Day, after evaluating Obama's data, the staff created a statistical data-processing machine.[27]

Significance To Helping People Better Predict The Future

With effective integration and correct analysis of large-scale multi-source and heterogeneous statistical information, higher predictions about event fate can be made. Miles can analyze big data to enhance the sustainable characteristics of the social and financial system, and further launch new industries related to statistical data. In the security and military domains, relatively large community-based registration capabilities have been successfully developed and implemented. For example, in early 2010, the United States released a document titled "China's nuclear warhead storage and management system," claiming that the United States had discovered Chinese nuclear bases in Shaanxi, Jiangxi and Sichuan. The registry even provided the name of the city and county where the nuclear base was located. These comments caused a sensation around the world. Through this document, the Missionary Institute of the United States of America was established in the public interest[28]. Headquartered in Washington, DC, the institute publicly used data and documents (including journals and conference papers) in 2008 to study and

TABLE 1. Review of previous studies on big data.

No	Title	Author	Year	Independent variable	Dependent variable	Important notes
1	Big data governance and algorithmic management in sharing economy platforms: A case of ridesharing in emerging markets	Basukie, Jessica, Yichuan Wang, and Shuyang Li	2020	Big data	management in sharing economy platforms	This study finds the negative consequences of algorithmic management in the ridesharing platform. We open up the “black box” of big data governance for the stakeholders of the sharing economy platform.
2	Big data adoption: State of the art and research challenges	Baig, Maria Ijaz, Liyana Shuib, and Elaheh Yadegaridehkordi	2019	Big data	research challenges	According to the findings, Technology–Organization–Environment and Diffusion of Innovations are the most popular theoretical models used for big data adoption in various domains.
3	Big data and natural environment. How does different data	Calza, Francesco, Adele Parmentola, and Ilaria Tutore	2020	Big data	natural environment	The main finding of the study is that companies that wants to implement Clean Innovation Strategy often refer to external partner to develop the necessary

	support different green strategies?					architecture needed to exploit big data potentialities.
4	A framework to simplify pre-processing location-based social media big data for sustainable urban planning and management	Abdul-Rahman, Mohammed, et al	2020	sustainable urban management	Big data	The validated results from the case study showed high accuracy that Social Media Big Data can be used to study the spatiotemporal dynamism of community challenges.
5	Big data prioritization in SCM decision-making: Its role and performance implications	Wilkin, Carla, et al	2020	Big data	decision-making	Findings support a positive association between Big Data Availability and its use in SCM decision-making, and suggest that Big Data Prioritization, as conceptualized in the study, has a positive impact on the use of big data in SCM decision-making and SCM performance.

forecast military and economic security issues in China. They complete documentation through vertical search, classification analysis, and system evaluation for high volume records[14].

MODELS AND ALGORITHMS FOR DECISION-MAKINGS

In those years, theoretical big data models and algorithms have been widely reported to help SM-SCM make choices. This section divides these models or algorithms into big data display models, information and mining method, and optimization models based on big data. Display of records is critical, as the information generated from suppliers and manufacturers is often disorganized and heterogeneous. In terms of enhancing the display of full-scale statistical data based on Tuple, a custom-sized dynamic information version (D4M) has been proposed to allow linear algebra in the database. There are many types of object transfer in SM-SCM. In order to define the mobile phone information, together with a specific transmission mode, an idea based on the space and infrastructure of the big data modeling of the mobile devices is provided. This statistical version can accurately shape the venue through popular demonstrations. Due to the large number of sensors used in production and transportation areas, sensor records need to be coordinated and standardized for similar purposes. Therefore, the n-dimensional RFID-Cuboids model has been proposed innovatively. The model adjusts the gap and time to classify logistics behavior across the entire delivery chain. Ontology is another representation form for identifying large information. An ontology-based data model is presented to intelligently process buyer claims, thus providing the company with some useful data and experience. Based on the whole information display technology, useful records can be extracted and understood. A new algorithm that combines semantic lifespan and cloud computing has led to the generation and processing of big data. The rule set uses the additional description framework (RDF) to present the batch information, converting the recorded position directly into a finite semantic graph (FSG), which can be analyzed by the logical rule set to process the total information set. Therefore, big data can be converted into small registers, and the constant volume arc algorithm for major problem evaluation (PCA) and projection aggregation is introduced. [17]

Big Data In Material Science

Before moving on, one should explore the function of big data and how it plays a role in the field of materials science. In addition to big data in materials science, various feature collection, data storage, data retrieval, and better analysis performance analysis, the essential step is to understand the data format and representation, and take the prior action methods necessary to ensure data quality[24]. The need to use pre-processing methods to deal with loss of value, annoying data, external data, duplicate data, etc. The primary method is to remove irrelevant data from large data sets. Data pre-processing techniques include sampling, attribute type conversion, feature extraction, data estimation, feature selection, etc. Use supervised learning for predictive modeling. When dividing the dataset into training and testing, you must be more careful, otherwise the model may easily scale up and show optimistic accuracy [29].

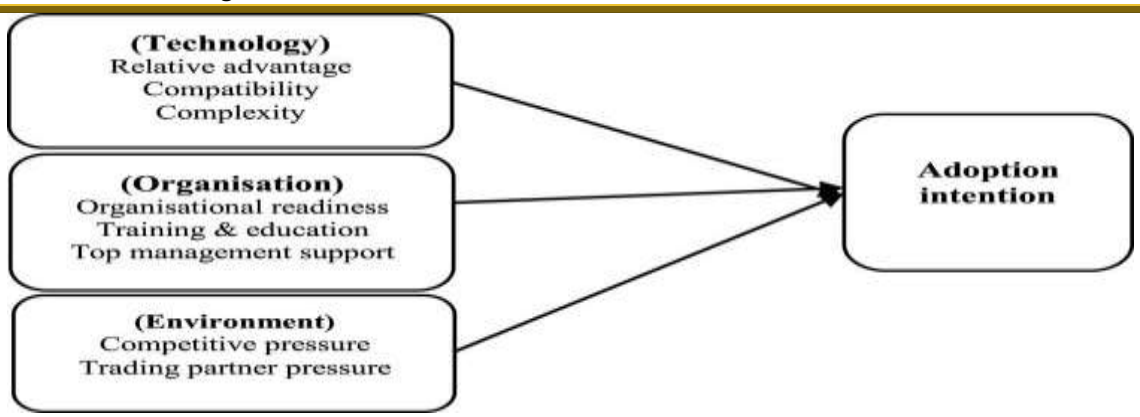

Figure 1: TOE framework for adopting big data

Big Data Adoption Studies

number of studies have tested the level of adoption and use of big data by combining different theoretical models. These theories have been used in corporations, institutions, companies, companies, and supermarkets. A company is a sole proprietorship owned by one person[30]. However, organization refers to a group of people working for a specific purpose. A corporation is a legal entity, and a corporation is the process of obtaining profits through trading products or providing services. Instead, retailers sell products directly to consumers or wholesalers to other companies. Kang and Kim (2015) used the TOE framework to analyze the factors affecting a company's innovation [31].

BIG DATA GOVERNANCE AND ALGORITHMIC MANAGEMENT IN SHARING ECONOMY

Big data management refers to controlling people, processes, and technology to take advantage of the large amount of information that is generated within an organization. Due to the interaction of company pressure, business law, and information characteristics, big data management is often unique to an organization. Recent studies exploring the role of big data governance in shared financial systems have focused particularly on the technical knowledge that is being implemented alongside smart automation and energy storage. The great success achieved with big data management in the sharing economy must take into account many issues, including: the intrusion of privatization, human-machine mismatch, distrust, data leakage, inconsistent records, and ethical issues. Solving these problems requires extensive academic attention and research. In the current literature, in the context of a participatory economic system, the management of big information and the management of algorithms are discussed from a broad perspective: (1) The task of the expert group; (2) Performance and evaluation tools; (3) The problem of imprisonment and morals[32].

RESEARCH METHOD

Descriptive methods are used to study and describe the records presented in this article. The research course turned into a description based on Torrioni and Milo (2012), which classifies scientific research on the topic of production engineering in classicism and studies variables: nature, objectives, methods, and methods. With regard to this classification, these studies have been applied in nature as they seek to use big data to assist in answers to production methods identified in the literature. These responses are aimed at practical applications across the framework. This research is exploratory because it aims to clarify the problem and make it a bibliographic and documentary point of contact in the actual scenario related to the research problem, in addition to analyzing examples to enhance the experience. Moreover, by revealing the importance of the basic components of the processes and phenomena of the environment under investigation, and without consistently obtaining quantifiable data for the use of statistical equipment, their methods can be considered qualitative.

FUTURE RESEARCH DIRECTIONS

This article has uncovered many avenues for future work in this field. First, additional study must be performed on the interactions between each big data characteristic, as they do not exist separately but naturally interact in the real world. Second, the scalability and efficacy of existing analytics techniques being applied to big data must be empirically examined. Third, new techniques and algorithms must be developed in ML and NLP to handle the real-time needs for decisions made based on enormous amounts of data. Fourth, more work is necessary on how to efficiently model uncertainty in ML and NLP, as well as how to represent uncertainty

resulting from big data analytics. Fifth, since the CI algorithms are able to find an approximate solution within a reasonable time, they have been used to tackle ML problems and uncertainty challenges in data analytics and process in recent years[33]. However, there is a lack of CI algorithms to apply to big data analytics for mitigating uncertainty.[28]

CONCLUSION

Methods of data reduction are underway Applied in big data systems. Either method is optimal Data storage or transmission within the network or data reduction Repetition and duplication. Plus some Methods only reduce size by compressing the original data and some methods reduce speed from data flow as quickly as possible before big data entry Storage systems. In this article, we dealt with many important matters, among them the problem of storing big data and ways to reduce it and make optimal use of it in various economic, technological and commercial environments ... etc. Among the results of this study is big data that allows attackers (hackers) to extract knowledge about the organization's infrastructure, mobility patterns, preferences, and quality of experience. Therefore, it was necessary to address ways to reduce big data. And to provide the latest technology, especially storing big data.

REFERENCES

[1] S.-C. Wang, Y.-T. Tsai, and Y.-S. Ciou, "A hybrid big data analytical approach for analyzing customer patterns through an integrated supply chain network," *Journal of Industrial Information Integration*, vol. 20, p. 100177, 2020, doi: 10.1016/j.jii.2020.100177.

[2] S. Ying, S. Sindakis, S. Aggarwal, C. Chen, and J. Su, "Managing big data in the retail industry of Singapore: Examining the impact on customer satisfaction and organizational performance," *European Management Journal*, no. xxxx, 2020, doi: 10.1016/j.emj.2020.04.001.

[3] S. Misra and S. Bera, "Introduction to Big Data Analytics," *Smart Grid Technology*, pp. 38–48, 2018, doi: 10.1017/9781108566506.005.

[4] R. H. Hariri, E. M. Fredericks, and K. M. Bowers, "Uncertainty in big data analytics : survey , opportunities , and challenges," *Journal of Big Data*, 2019, [Online]. Available: https://doi.org/10.1186/s40537-019-0206-3.

[5] E. Olshannikova, A. Ometov, Y. Koucheryavy, and T. Olsson, "Visualizing Big Data with augmented and virtual reality: challenges and research agenda," *Journal of Big Data*, vol. 2, no. 1, pp. 1–27, 2015, doi: 10.1186/s40537-015-0031-2.

[6] D. Singh and C. K. Reddy, "A survey on platforms for big data analytics," *Journal of Big Data*, vol. 2, no. 1, pp. 1–20, 2015, doi: 10.1186/s40537-014-0008-6.

[7] S. Landset, T. M. Khoshgoftaar, A. N. Richter, and T. Hasanin, "A survey of open source tools for machine learning with big data in the Hadoop ecosystem," *Journal of Big Data*, pp. 1–36, 2015, doi: 10.1186/s40537-015-0032-1.

[8] T. Hasanin, T. M. Khoshgoftaar, J. L. Leevy, and R. A. Bauder, "Severely imbalanced Big Data challenges : investigating data sampling approaches," *Journal of Big Data*, vol. i, 2019, doi: 10.1186/s40537-019-0274-4.

[9] I. Komla, Z. Lu, and G. Liu, "The Journal of Academic Librarianship Big data management capabilities and librarians ' innovative performance : The role of value perception using the theory of knowledge-based dynamic capability," *The Journal of Academic Librarianship*, no. 301, p. 102272, 2020, doi: 10.1016/j.acalib.2020.102272.

[10] C. Wilkin, A. Ferreira, K. Rotaru, and L. R. Gaerlan, "International Journal of Accounting Information Systems Big data prioritization in SCM decision-making : Its role and performance implications ☆," *International Journal of Accounting Information Systems*, vol. 38, p. 100470, 2020, doi: 10.1016/j.accinf.2020.100470.

[11] T. G. Mueller and A. M. Vick, "An Investigation of Facilitated Individualized Education Program Meeting Practice: Promising Procedures That Foster Family–Professional Collaboration," *Teacher Education and Special Education*, vol. 42, no. 1, pp. 67–81, 2019, doi: 10.1177/0888406417739677.

[12] M. Abdul-Rahman, E. H. W. Chan, M. S. Wong, V. E. Irekponor, and M. O. Abdul-Rahman, "A framework to simplify pre-processing location-based social media big data for sustainable urban planning and management," *Cities*, no. September, p. 102986, 2020, doi: 10.1016/j.cities.2020.102986.

[13] M. Q. Shabbir and S. B. W. Gardezi, "Application of big data analytics and organizational performance: the mediating role of knowledge management practices," *Journal of Big Data*, vol. 7, no. 1, 2020, doi: 10.1186/s40537-020-00317-6.

[14] X. Jin, B. W. Wah, X. Cheng, and Y. Wang, "Significance and Challenges of Big Data Research," *Big Data Research*, vol. 2, no. 2, pp. 59–64, 2015, doi: 10.1016/j.bdr.2015.01.006.

[15] F. Calza, A. Parmentola, and I. Tutore, "Big data and natural environment. How does different data support different green strategies?," *Sustainable Futures*, vol. 2, no. October 2019, p. 100029, 2020, doi: 10.1016/j.sftr.2020.100029.

[16] O. Kwon, N. Lee, and B. Shin, "Data quality management, data usage experience and acquisition intention of big data analytics," *International Journal of Information Management*, vol. 34, no. 3, pp. 387–394, 2014, doi: 10.1016/j.ijinfomgt.2014.02.002.

[17] R. Y. Zhong, S. T. Newman, G. Q. Huang, and S. Lan, "Big Data for supply chain management in the service and manufacturing sectors: Challenges, opportunities, and future perspectives," *Computers and Industrial Engineering*, vol. 101, pp. 572–591, 2016, doi: 10.1016/j.cie.2016.07.013.

[18] A. Sardi, E. Sorano, V. Cantino, and P. Garengo, "Big data and performance measurement research: trends, evolution and future opportunities," *Measuring Business Excellence*, no. October 2019, 2020, doi: 10.1108/MBE-06-2019-0053.

[19] S. Chauhan, N. Agarwal, and A. K. Kar, "Addressing big data challenges in smart cities: a systematic literature review," *Info*, vol. 18, no. 4, pp. 73–90, 2016, doi: 10.1108/info-03-2016-0012.

[20] A. Aryal, Y. Liao, P. Nattuthurai, and B. Li, "The emerging big data analytics and IoT in supply chain management: a systematic review," *Supply Chain Management*, vol. 25, no. 2, pp. 141–156, 2020, doi: 10.1108/SCM-03-2018-0149.

[21] D. Mourtzis, E. Vlachou, and N. Milas, "Industrial Big Data as a Result of IoT Adoption in Manufacturing," *Procedia CIRP*, vol. 55, pp. 290–295, 2016, doi: 10.1016/j.procir.2016.07.038.

[22] G. Santoro, F. Fiano, B. Bertoldi, and F. Ciampi, "Big data for business management in the retail industry," *Management Decision*, vol. 57, no. 8, pp. 1980–1992, 2019, doi: 10.1108/MD-07-2018-0829.

[23] J. Hu and Y. Zhang, "Measuring the interdisciplinarity of Big Data research: a longitudinal study," *Online Information Review*, vol. 42, no. 5, pp. 681–696, 2018, doi: 10.1108/OIR-12-2016-0361.

[24] M. Aboelmaged and S. Mouakket, "Influencing models and determinants in big data analytics research: A bibliometric analysis," *Information Processing and Management*, vol. 57, no. 4, p. 102234, 2020, doi: 10.1016/j.ipm.2020.102234.

[25] A. De Mauro, M. Greco, and M. Grimaldi, "A formal definition of Big Data based on its essential features," *Library Review*, vol. 65, no. 3, pp. 122–135, 2016, doi: 10.1108/LR-06-2015-0061.

[26] C. Wiencierz and U. Röttger, "The use of big data in corporate communication," *Corporate Communications*, vol. 22, no. 3, pp. 258–272, 2017, doi: 10.1108/CCIJ-02-2016-0015.

[27] C. Lin, A. S. Kunnathur, and L. Li, "Conceptualizing big data practices," *International Journal of Accounting and Information Management*, vol. 28, no. 2, pp. 205–222, 2020, doi: 10.1108/IJAIM-12-2018-0154.

[28] D. Agrawal, S. Das, and A. El Abbadi, "Big data and cloud computing: Current state and future opportunities," *ACM International Conference Proceeding Series*, pp. 530–533, 2011, doi: 10.1145/1951365.1951432.

[29] M. K. Tripathi, R. Kumar, and R. Tripathi, "Big-data driven approaches in materials science: A survey," *Materials Today: Proceedings*, vol. 26, no. xxxx, pp. 1245–1249, 2019, doi: 10.1016/j.matpr.2020.02.249.

[30] S. S. Chaurasia and A. Frieda Rosin, "From Big Data to Big Impact: analytics for teaching and learning in higher education," *Industrial and Commercial Training*, vol. 49, no. 7–8, pp. 321–328, 2017, doi: 10.1108/ICT-10-2016-0069.

[31] M. I. Baig, L. Shuib, and E. Yadegaridehkordi, "Big data adoption: State of the art and research challenges," *Information Processing and Management*, vol. 56, no. 6, 2019, doi: 10.1016/j.ipm.2019.102095.

[32] J. Basukie, Y. Wang, and S. Li, "Big data governance and algorithmic management in sharing economy platforms: A case of ridesharing in emerging markets," *Technological Forecasting and Social Change*, vol. 161, no. September, p. 120310, 2020, doi: 10.1016/j.techfore.2020.120310.

[33] Z. Lv, H. Song, P. Basanta-val, A. Steed, and M. Jo, "Next-Generation Big Data Analytics : State of the," *IEEE Transactions on Industrial Informatics*, vol. 13, no. 4, pp. 1891–1899, 2017.