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Analytics for Smart Keys application and User interface of streaming data

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ABSTRACT

Big data has been a challenge for organizations and technology professionals because conventional software applications have struggled in the maintenance and analysis of big data. These software applications did not consider the immense growth of user generated data and struggled to keep up with the pace of the technology. It necessitated developing new applications that focused on the principles of artificial intelligence and data mining such that a heuristic search could provide meaningful results for big data. Smart keys applications and user interface of data streaming are two examples where it is crucial to manage big data for gaining competitive advantage in the contemporary context. This study analyses different aspects of big data in the context of analytics for smart keys application and user interface of streaming data. The study is based on the collection and analysis of secondary data. Data was collected from peer-reviewed journal articles, books, technology magazines, and other authenticated sources. The findings of the study indicated significant benefits of using big data analytics in smart keys applications and user streaming for big data. These applications are the best candidates for applying the concepts of big data analytics and organizations can gain a competitive advantage from the implementation.

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Introduction

Overview

Big data as the word describe that the data, which is in large and complex form, bid data, has become separate research field for multidiscipline and this field of study is relatively new. Gartner listed the Top 10 strategic and technology trends for 2013, and top 10 crtical tech trends for the next 5 years (Savitz, 2013). Big data is highly associated with analytics of business and business intelligence as categorized in separate concept. The most fundamental challenge for the Big Data applications is to explore the large volumes of data and extract useful information or knowledge for future actions (Rajaraman and Ullman, 2011). There is a different kind of data available in the database of the companies, three types of data have been found out, which are software- structure, unstructured and semi-structured (Ranger, 2007). From the broad perspective of management, big data is a holistic approach for getting into the thorough analysis in order to create a competitive edge. There is complementary involvement of technology in big data for providing the value for special cases in which whole information system integrate with the collection of data, management of data and utilization of data to assist business need, creating new business plans and made changes in existing program. Big data is different from big data analytics in reference of 5V's, volume, velocity, veracity, and value. For data collection, different formats of data have been used in the form of audio, images, number and text (Brinch, Stentoft, and Jensen, 2017)

For data management, structured and unstructured data are used and sorted out in different systems. In this system, transparent IT-infrastructure has been used which allows data integration and data sharing. Last but not with the least importance for data utilization, exploration of knowledge have great importance to provide support for decision-making or to make an automated decision. In addition, the ultimate aim of using this process is to increase performance and outcomes.

Habbal, F (2017) findings confirmed that there is a huge difference between the acceptance of young adults and senior adults toward Digital transformation and Data understanding and confirm that technology can be denied or rejected by seniors adults for many reasons, although it can influence them to accept the smart technology in future.

Zharova and Elin, (2017) Big data and streaming of big data are challenging task for users to the interface because of sensitive information present in it. This problem is encountered by many traditional applications, which did not have the strength to provide support to such big data. As we know the major portion of the economy is occupied by intangible sector or service sectors, now most of the purchases made through online channels and companies ask for the personal information from customers, high level of security is the need to secure this important information. Which are sometimes obstacles for companies? Social media is also one of its' kind used same methods to extract out customer profile and generate their profile in their database for the future reference. Data of this nature is hardly saved from theft or any other threat. The banking sector, which solely runs through different logs of different data, out of this data most of the information, is highly confidential. Big data technologies process sensitive information with short span without worrying about theft and frauds. The cyber law provides complete protection to big data technology; it provides security of data at each level whether it is on the country level, organizational level, and individual level.

Big data is widely used from small sector to large sector. Likewise, the energy sector is one of them; the concept of smart grid has evolved with emergence big data, which provides benefits to electricity users, big data in smart grids provide stability and utmost safety. The efficiency of the smart grid provides customers satisfactions through asset utilization and efficiency. It keeps informed to users and facilitators about the theft of electricity units. In addition, it provides easier billing, theft detection etc. Advanced analytical techniques and updated technology help to communicate these benefits. Big data some time choose to take data from multi-domains and this characteristic raised different challenges in the processing of big data. There is also deployment of the smart meters and power grids in the energy sector for the ease of big data utilities.

The vast amount of data being produced, stored and made available from multiple sites is a major source of knowledge. These 'massive data', if properly managed, it will make an important contribution to continued economic and social development. Public and private sector awareness must be enhanced to understand challenges and opportunities presented by large data and to influence policy development processes and delivery of services in UAE. (Habbal, F 2018)

Big data and its complexities can be minimized by following the proper life cycle. Organizations have many complex data to sort out and there are 100% chances of data to become inaccurate and corrupt. In life cycle modeling and analysis is most important stages of all, Data acquisition has also important to collect data and filter out the one, which is of no use. Extraction,

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cleaning, aggregation, representation, modeling analysis, and interpretation are various stages of this life cycle. Nowadays the concept of smart keys is emerging and these smart keys will be backed by huge data. The world these days focus on the digital world through using different tools and methods, smart keys are one of them. Smart keys can be of any form, the shape of keys are like the ordinary one but it has so much into this in the form of big data. Banking introducing smart key options for making their whole system more secure. Users of these smart keys would be able to get accessibility in different products. However, smart keys would be time-bound and have been directed to perform in certain time. The special feature of smart keys includes strongly backed by big data. Cab services also work on this framework but it mainly not focused on smart keys rather they focus on big data and analyze this data of customers and drivers through updated tools (Shuai and Jiang, 2017)

Jagadish et al., (2014) Big data and Big data technologies are perfect combinations for the industry to handle this large amount of data securely. As with the increasing scope of big data, big data technologies are also encouraging. Companies are more focused toward the quality material, which provide support to towards strengthening their businesses, so slow responsiveness, and less accuracy seems unhealthy options for business and these features were associated with traditional technologies. Big data Management-a big data technology is the answer of all outdated tools, this technology facilitates collection, integration and storing of data with the low level of hardware requirement. This technology is backed by three different Vs of different nature like Velocity, Volume, and variety. Three important characteristics provide protection from cybercrime. Big data also encouraged different analytical techniques like machine learning, statistical analysis, data mining, and visualization followed by many organizations.

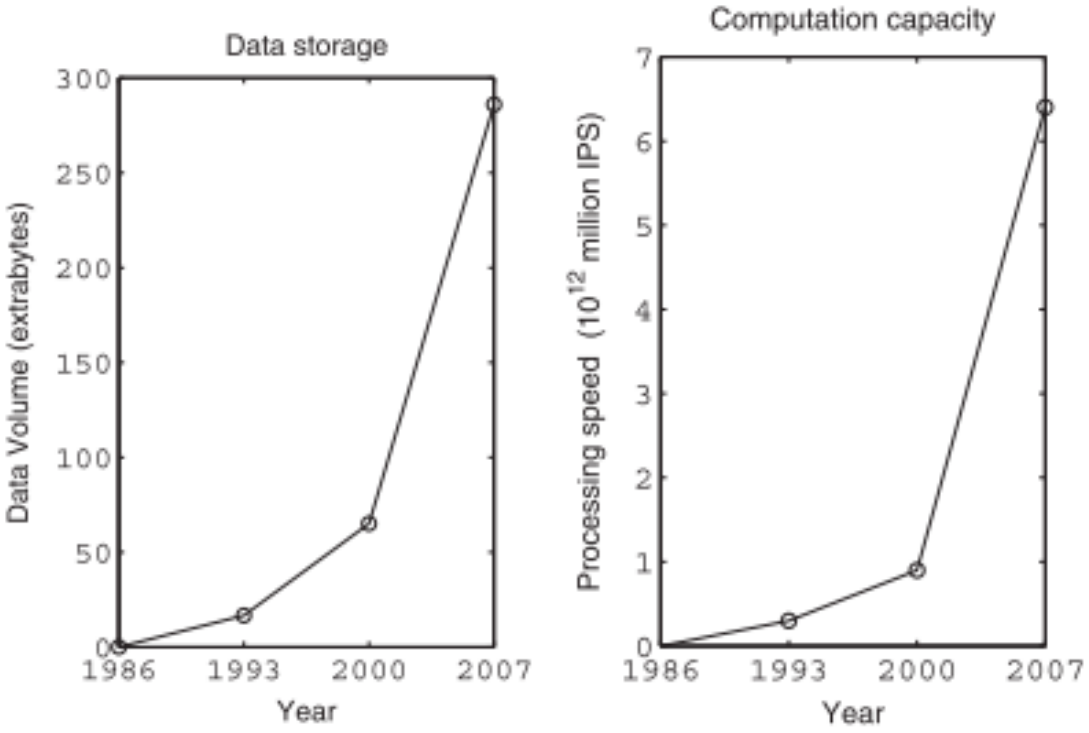
Apache Hadoop is also big data technology, which provides assistance in dealing with complex data and it minimizes the errors in streaming of quality data. However, unlike many other technologies Hadoop do not perform the copy function it just processes data wherever the data is processed (Oussous, Benjelloun, Lahcen, and Belfkih, 2017)

The organization has developed the better understanding of big data since its inception, big data and smart key applications took the IT world to the next level. The efficiency in data has been thoroughly done by big data applications and big data analytics. Understanding of Big data is concept aligned with streaming of data by many users. Big data facilitates the integration of data, distribution storage, speed, and security and focus on centralized management and visualization of big data.

Problem Statement

According to the research of Gandomi and Haider (2015), it identifies that there is the emerging scope of big data analytics for increasing the effectiveness of different sectors. Thus, there is the big need to identify its role in developing the organization from the perspective of data streaming and the smart key applications. Moreover, the research main concern is to highlight the significance of the big data analytics in determining the impact of digital technology in advancing different sectors. The main issue of the research is, "To understand the big data with respect to the smart key applications and user interface of streaming data."

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Data deluge: the increase of data size has surpassed the capabilities of computation. (Chen P, Zhang C, 2014)

Research Questions

Following are the research questions:

How the growth of big data can be used for gaining competitive advantage?

How does big data analytics effectively use in data streaming?

Do smart key applications affect big data analytics?

Significance of Study

The analysis of big data has been a challenge for organizations as well as technology professionals. Experts have always looked for algorithms and computing logics that could assist in the consolidation and summarization of big data. Smart keys applications are also an area where the understanding of big data will provide guiding principles for effective and efficient utilization of big data. The user interface of streaming data also needs to be optimized in the context of big data. It is because the hardware manufacturers did not consider the use of big data in their design as the big data analytics is only a recent phenomenon. The findings of this study will also provide insights as to how user interface of streaming data can be managed considering the capacities and capabilities of current hardware used by computer users.

Literature Review

Zharova and Elin, (2017) the study was conducted from the perspective of Russia; the research was focused on big data and streaming of data with complete security by using Big Data technology. This technology facilitates many ways to collect and process big data.

Big Data Technology in Security

Russia pertains problems and number of challenges in terms of securing privacy. It was facing this problem in services like online purchases, social network and some of these challenges include, making sure personal data is secured from theft, streaming of the big data regards customers and employee with the complete balance of security and ensuring the protection of anonymity. In Russia Big, data is highly affected in banking sectors. They have confidential information of stakeholders, BODs, and other investors.

In addition to that, Big Data technologies ease in looking for credible debtors from the database and streaming of data in that way takes a small span of period. In Russia, there are various cyber laws witness for processing of every data with the secured manner and provide guidelines for sufficient protection of individual privacy. It has been concluded from the research that there is need to devise new policies and laws for the intensive security of data because these laws fail to address new issues faced by many organization in protecting the individual privacy while streaming of big data. It further addresses this problem in an operator of a search engine. which has

the high profile of user they have each and every personal data of unknown person which are not even subject to audit and it takes a lot of efforts to process this data within a second for customers and other industries, so it is necessary for companies to use Big data technologies to encourage security.

Big Data analytics in Different Sectors

Shuai and Jiang, (2017) This Research are conducted on big data and problem in streaming of data in the energy sector. The definition and implication of bid data varies sector to sector, in energy sector this definition is slightly change, in energy sector Big data defines large amount of information in smart grid, Researcher has evaluated benefits of big data in smart grids for the electricity users, big data enhancing stability of system and reliability by providing utmost safety. With the emergence of big data, progress made on data analytical technology changed and improve the completely outdated methods of monitoring and problem detection. Another benefit is increasing asset utilization and efficiency-It provide the better understanding of the running capacity and physical life of an asset. Better customer services and satisfaction-Currently smart meters at home have been deployed for significant progress in worldwide, which facilitates easier billing, instant fraud detection, and the small price for each unit of electricity. However, aforementioned benefits backed by advanced data analytics and updated technology for facilitating communication. There are always two schools of thought Big data provide many benefits but it becomes challenging when data is from multisource and it has to be extracted from a multi-domain, then big data create difficulties infusion of the different system. The research concluded that updated deployment of smart meters at home and the power grid devices together establish the ease of big data utilities and novel and effective measures for the prospects of streaming of data in multi-domains.

Power Lifecycle of Big Data

Jagadish et al., (2014) This research focused on the big data and its complete and proper life cycle to be followed in order to make influential processing of streaming data. The major part has been focused on analysis and modeling part of the Big data. Like here are some cases in which organization gather information in repetitive and overlapping fashion, which is also a biggest statistical challenge for data integration and ultimately have the challenge for streaming of that data. Therefore in order to avoid the uncertainty organization should follow the proper lifecycle of big data. That is how the better understanding of big data will be developed. In the " data acquisition" stage, the importance of each single data has been highlighted and the data which has real significance. The data that is of real interest should not be filtered out. In stage two, it has defined various means of information extraction and cleaning. Data integration, aggregation, and representations, lastly there is most important stage- Modeling analysis and interpretation. This big data study was also focused on Smart mobile taxi services, this day can service have become smart services and they become worthy of providing services for handling big data, cab services use massive database of drivers, customers in order to make one trip happen. Cab services analyze this big data through in-house data wrangling system, from Argos, which control millions of system interactions and provide alert notification to engineers in some emergency cases to Gurafu, q tool that provides safer, better and real-time for drivers.

Big Data analytics in Retailing

Bradlow, Gangwar, Kopalle, and Voleti, (2017). The following study defines the role of big data, predictive analytics in the retail industry, paper evaluated the opportunities, and possibilities of big data in retailing, these opportunities identified under five major dimension- Data focus to customers, product, time, location, and channel. Much emphasized given on equality of data and possibilities of application which thrives from a mixture of new data sources, the smart application consists of statistical tools and knowledge regard domain mixed with theoretical insights. According to estimates, Walmart where IT plays a vital role to support its operation in the form of big data, gather around 2.5 petabytes of information in every other about transactions it made, customer's behavior, location, devices. Around 20 billion of devices are connected to the Internet of Thing and in this regard, they have voluminous data recorded in these devices. They handle and analyze this huge data by following Bayesian Analysis and retailing, the research concluded that big data in retailing create value addition in data; it is not just the game of having voluminous data, but it is the mixture of new data sources, although theoretical insight is very necessary to work on statistical tools. The combination of statistical tools and theoretical insight serves to effect better data compression, transformation, and processing on prior to process analysis. There are different tools used in retailing provide larger impact and lesser bias in analyzing data. Moreover, new sources of data and different correlational techniques of theory, knowledge of different domains play a crucial role in big data.

Smart Key Application and Big Data Analytics

Oussous, Benjelloun, Lahcen, and Belfkih, (2017) this research is focused on big data, big data technology and developing big data technologies. It has become important for organizations to focus on developing Big

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Data application. The organization depends on the knowledge extracted from voluminous data because techniques, which were used to gather data earlier, have become obsolete and less efficient. There is slow responsiveness with less accuracy and performance. To face the possibilities of Big data challenges, various technologies have been developed. These challenges include Big Data Management- how to collect, integrate and store big data, with less bundle of hardware requirements. Big Data Cleaning- The five stages like (Cleaning, Aggregation, Encoding, storage, and Access) were necessary to traditional data management. However, the challenge in Big Data is how to take care of complex data management and its nature (Velocity, volume, and variety) insensitive environment of cybercrime, the challenge is how to filter useless information and keep information, which is of interest. Big Data Aggregation- How to organize such big data. Imbalanced capacity system, Imbalanced Big Data, Big Analytical Data- This is the most important challenge for the organization because it has the direct link with streaming of data with the help of Big Data Technologies, if one fail to assess accurately the information, then this information is of no use. Further, various analytical techniques have been followed nowadays, it includes data mining, visualization, statistical analysis and machine learning in order to make Big Data Analysis cope up with the challenge of stream processing.Research emphasizes the issues which arise when dealing with massive data. Hadoop ecosystem-Apache Hadoop is a Big Data Technology that provides complete support to the system; this technology has been devised to minimize the low-performance issue with less accuracy. This technology is an interrelated term for streaming of data in a reliable manner. Unlike many traditional technologies Hadoop does not perform the function of copy, rather it performs tasks wherever data are stored. The research concluded that for the successful streaming of Big data, Organizations have to work on efficient Data integration, Distributed storage, centralized management. Fast and security, Visualization of managing big data.

Characteristics & Capabilities

Big data is huge and often found in complex form that is difficult to manage for today's traditional system, this data can be generated from various sources and it can produce in different forms like structured, semi-structured and unstructured. Unlike the traditional data, big data have some characteristics and these characteristics are as follow. (Anuradha, 2015)

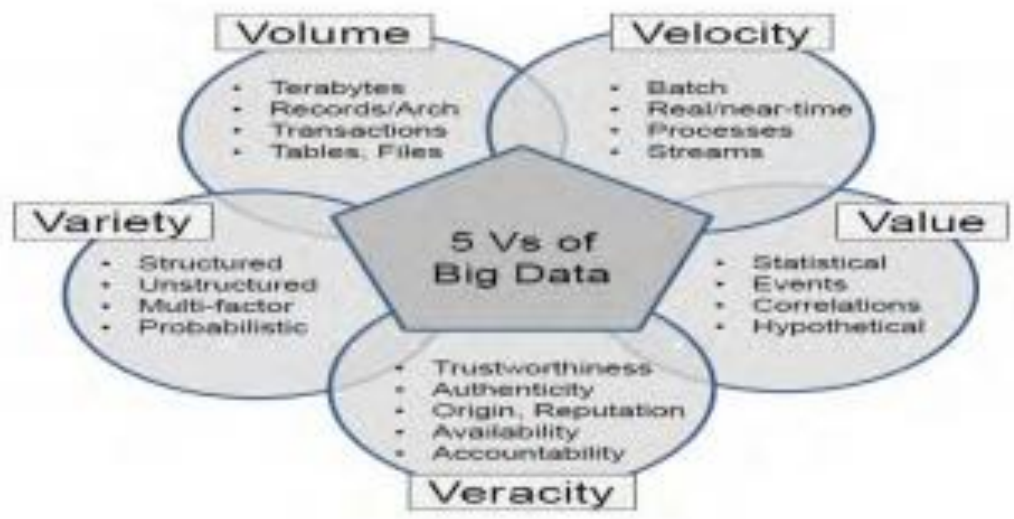


Fig1: 5Vs of Big Data

Volume

This characteristic of Big data confronts immediate challenges to the traditional conventional structure. It is the first most crucial aspect, which clicks on the mind of people when they think about handling big data. Many companies have a voluminous amount of data in the form of different records but do not have enough storage to process it further due to the insufficient support of the conventional system. However, the big data analytics made easy processing of huge and complex information.

According to IBM (2012), 90% of the data in the world today has been created in the last two years alone. In recent times, importance of voluminous data has been increased. However, the specific quantity is not mentioned of voluminous data, it has just been described as datasets whose size is not manageable by many traditional systems to collect, manage and analyze.

Velocity

Velocity describes speed; it refers to the potential in term of enhancing speed at which the complete data is created. Data can be analysed, processed and collected with this increased speed by the connected database. This characteristic of big data refers to the speed at which new data is generated and at which new data moves from one place to another. A video went viral on social media within seconds in 1999 about big data of one of the largest retailers, in which figures have been mentioned. There are 1000 terabytes of data in Wal-Mart's data warehouse. It had access of over 2.5 petabytes (2,500,000) of data in 2012. It uploads hundreds of hours of video on YouTube, and sometimes the video updates of every minute of every day. It sends over 200 million emails through Gmail.

Shortly, this dimension describes the capability of responsiveness to the events as they happen. For example, Google Maps provides the real-time information about traffic information within just one click, and it process live traffic information by assessing the information about speed of phone using the Google Maps app on the road (Barth 2009) along with it, Google Map asses the congestion and guide alternate routes to ensure smooth journey (Sonka, 2014)

Variety

The next characteristics of Big data are variety, big data can be stored in any form of structured data and unstructured data. Therefore, it is not necessary that companies always have Big data in structured form, it sometimes gets unstructured data and for this reason, it is not always easy to enter big data into a relational database. Companies need to look into the category as well when sorting out big data and that is why big data analyst deals with a variety of various nature of data in order to know the complexity of both storing and analyzing Big data. The percentage of unstructured data is almost 90% as compared with structured one.

Veracity

When the data is in voluminous, with high velocity and variety of data, there are 100% chances that data will show inaccuracy in some part of data and this defines veracity of Big data. It also affects the quality of information being processed in the complete system. Therefore, data accuracy depend on the veracity of the source data.

Value

The most important characteristics of big data are the "Value", all the rest of the characteristics depend on the Value of Data, Data which is processed, stored and analyze have the specific value. The potential of the Big data is huge. The data having greater accessibility but it does not have any value than it will lose its' essence and will turn out as useless material. The cost factor is also accountable for this Big data. There is the huge cost incurred in technology to process Big Data, but all at once, the cost will waste if the data is of no value. Therefore, companies should assess the importance of data before allocating cost on this.

Applications and Analytics

In this head different usage of Big data have been described and an industries boosted by big data analytics are as follows:

Application of Big Data in HealthCare

Healthcare has become very costly with the increasing cost of Technology. Big data provides great aid in tackling issues like that. It provides help to the physician to keep the record of all the patients' history. All these sources are kept confidential. It can be accessed only by patients and physicians. Once a patient visited the hospital for treatment, his name and his data will be automatically saved in the database safely forever and it can be accessed whenever it is required. The doctors can also have access to it. There are various inventions oriented towards big data; these inventions are in the form of devices. Today this data facilitates the physicians in treating patients' as the doctor prescribed the medicine even without visiting the patients. They check patients' heartbeat and monitor the temperature through remote devices like a watch, which fitted into patients' hand.

Nanobots are unique invention in the healthcare sector in the form of miniature robots, which will work as catalyst in boosting the immunity in the human's body while fighting against harmful bacteria and contagious germs. They work through their different sensors installed in it and will help in treating those diseases which consider chemotherapy. Nanobots are mini robots that will be used in carrying oxygen, destroy germ particles and regenerate tissues (Pramanik, Lau, Demirkan and Azad, 2017)

Application of Big Data in Government Sector

In Government sector, the major hurdles are the combination and capability of the big data from one place to another of many public sector units and coordination with unions. Big data provides larger facility to the to the government sector including the power investigation, recognition of dishonesty and preservation of ecology. Big data also help to seek out the infections in food by the FDA. Big data generate fast and reliable output. It uses the big analytics while investigating a

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huge volume of communal complaints and this same sort of analytical data. This data is further utilized in order to check statistics regard health in urgency and resourcefully for timely procurement manufacturer. This data also provides alert for mistrustful or forged declaration.

Application of Big Data in Learning

Big data has not only left its footprints in Information technology sector but it also facilitates education world too. In today's world, online learning is at its' peak. There are many scenarios where Big Data is used in the education industry. An Application with the name of Bubble Score allows teachers to conduct assessments like best choice questions through mobile devices and notch up papers through different innovative techniques. Devices like this supports teachers to generate quick output in ranking all the students with all distinct characteristics (Hernández, Perez, Gupta, and Muntés-Mulero, 2017)

Adaptive Learning

Further Big Data analysis help to restructure entire content of course and the rank plan progress. Data oriented classroom broadens the understanding of learning of children, when they should study or at what extent. Organizations designing digital courses that use Big Data analytics to locate the efficiency of content of course work and its effect on the child.

Problem Control

Sometimes a student hand over someone else work instead of his own, in such situation big data helps in cross-checking of the assigned task in order to know that whose writing seems similar with the writing in Assignment.

Application of Big Data in Insurance Services:

Sometimes deficiency in providing financial services and target some very specific and rare market have become major challenge for an institutions. Big Data might be the answer of these some challenges, through this technology tool business can get purchaser insights for simpler commodities. It made it possible by finding out and forecasting buyer activities and extra information, which is acquired through different websites, regard purchaser information as CCTV video recording and social media. The big data is also a healthy tool for better client protection of insurance institutions. In administrating the claim process, big data analytics provides instant quality services in the farm of different information. Fraud detection process has also been improved. In the process of collection of huge statistics from digitisations and social media and directing of false fascination, Big Data help in achieving objectives of different insurance companies (Fang, Jiang, and Song, 2016)

Application of Big Data in Industrial and Natural Resources

To preserve the Natural resources is considered as challenging one on this earth. Voluminous data and velocity of big data are increasing this challenge. Most of the data of greater quantity in industries are unexploited. The data, which is unused, do not consider the importance of an advance system and greater dependability of business on this system. In the natural wealth industry, big data analytics use to sustain decisions that incorporate the huge amount of information from different geographic statistics. Big data analytics also help in finding solutions, which confront development and growth in some parts. (Blazquez, and Domenech, 2017)

Application of Big Data in Transportation

Recently, the huge amount of data from different areas and community network and speediness data from telecoms have affected journey policies throughout. Various claims on big data by many public sectors, private sectors and personal use as follows:

Big data has been used by private sectors in managing traffic, direct preparation, and an arrangement of intellectual transportation and administration of overcrowding management.

A Private sector use this big data in administrating the income, improvement of industries, logistics and for judicious benefits

Personal use of big data can be categorized in forecasting to gather on petroleum and period, for arranging different tour activities in seeing the sight etc.

Methodology & Hypothesis

This section of the research discusses the method utilized in the research for collecting, analysing, and evaluating data according to the research questions. Moreover, it highlights the research design for elaborating the choice, philosophy, approach, strategy, and time horizon of the research.

Research Design

The main aim of the research is to analyse the role of big data analytics in dealing with the smart key applications and user interface of streaming data in modern organizations. Therefore, the research conducted through the qualitative data because it is effective in

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interpreting the past researches about the effects of big data analytics. The research design comprises of six components that briefly describes the nature of the research based on research onion (Saunders et al., 2012). These components are explained as following with respect to the research:

Philosophy

The research analyses the role of big data into the different sectors with respect to the data streaming and the smart key applications. The research is based on qualitative research, therefore; the philosophy depends on the interpretivism because the outcomes of the research is the 'interpretation' of the collected data from different sources.

Approach

From the research of Saunders et al. (2012), the approaches of the research are divided into three types including the deductive, abductive, and inductive approach. The respective study is dealing with the qualitative data and focus on new results by analysing the present data, thereby; it depends on the deductive approach.

Research Strategies

The research strategy depends on the phenomenon to collect data. This research is priorly based on the past researches and the case studies of different sectors including retail, banking, and IT sector. Moreover, the research strategy utilizes in this research is the case study and the grounded theory because of the secondary approach.

Choice of Research Method

The choice of the method is the mono method because it focuses only on the secondary data to collect the data about the big data analytics in different sectors.

Data Collection Method

The data collected from the secondary sources including books, journals, articles, documentaries, magazines, newspapers, organizational annual reports, and other documented sources that provide the knowledge about the use of the big data analytics in identifying its significance in different sector for data streaming and the smart key applications.

Data Analysis Method

The research is based on the qualitative data, therefore; the data analysed through the critical analysis by interpreting the data analytically to identify outcomes of the research questions. Moreover, it examines the big data analytics importance by exploring the collected data.

Findings

The research was based on the collection and analysis of secondary data. The researcher analyzed secondary data through peer-reviewed journal articles, books, and other authenticated sources. The data were analyzed to generate key themes of the study. These themes are presented below:

Big Data and its Streaming

It has been found out from the research of Zharova and Elin, (2017) that big data play a vital role today and to stream this big data is the very challenging task for companies these days because of many security threats in the cyber world. Therefore, in this scenario, Big data technologies provide support for big data and its streaming in a secured manner.

Effectiveness of Big Data on Users

It has been evaluated that Big data have the high contribution in different sectors like energy sectors, retailing, health sectors, banking sectors and many other sectors. In addition, the same was communicated in the research of Shuai and Jiang, (2017) that big data increase the stability of the system and it provides reliability with complete security for the electricity users. Which drives better customer services and satisfaction against each penny paid by customers. It has been found out that big data these days valued by many organization and its' importance play a positive role in running a business smoothly. In addition, it confronts many challenges as data from different sources creates the problem in streaming of data because at the same time, companies have to work on the different system and to extract out quality data from this multi sources does not seems smart solutions.

Big data: A case of cab services

Through another research, it has been interpreted that there is big role of complete and proper life cycle in contribution of streaming of data. Jagadish et al., (2014) there is proper life cycle in order to increase the effectiveness of Big data, this efficiency can be brought by different stages of life cycle. He discussed the case of smart mobile taxi services which acquire massive database of employees and customers, they analyse this big data thing through in-house wrangling system, from Argos, which control different various systems through interconnection. They do this processing of data through proper life cycle. Which help in keep their credentials high and satisfied. Therefore, to work through these

proper cycles on big data help in smooth streaming of big data for the potential users.

Big Data and its streaming in Retail industry

Bradlow, Gangwar, Kopalle, and Voleti, (2017) found out usage of big data analytics in the retail industry, in this industry big data is widely used in five dimensions like customers, product, time, location and channel. In this research, he found out that a company could create competitive advantage through big data. Walmart is the bigger name in the retail industry, which uses Big Data for operational efficiency. They use Bayesian analysis for big data analytics. Companies can create the competitive edge in retailing by creating value through big data and by safely processing of this voluminous and sensitive data.

Big Data and Big Data Technologies

Oussous, Benjelloun, Lahcen, and Belfkih, (2017) were found out the importance of big data technologies in handling Big data. Because these technologies help in extracting meaningful information, actually in this research prerequisite for efficient data processing has been discussed and concluded that big data technologies are necessary to apply for Big data management. Big data alone is not sufficient to make the whole process smooth but some other factors like Cleaning, aggregation, encoding, storage, and Access are also necessary to make the whole process efficient.

Conclusion

This study analysed different aspects of big data and focused on analytics for smart keys application and user interface of streaming data. The research questions of the study were as follows; how the growth of big data can be used for gaining competitive advantage; how can big data analytics be effectively used in data streaming; do smart key applications affect big data analytics. The findings of the study showed that big data analytics is highly beneficial for different software applications. It can provide a competitive advantage to the organizations as most organizations have not embraced this notion of big data, and first entrants will certainly gain advantage from this scenario. The smart keys applications and user interface of data streaming are two areas that should be focused by the organizations. These areas are the best candidates for applying the concepts of big data analytics.

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