ISSN 2616-5775 Vol. 5, Issue 2: 54-58, DOI: 10.25236/AJCIS.2022.050209

Analysis of Application Countermeasures of Big Data Technology in Information Management

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Abstract: *Compared with traditional information data, big data has more information, more diverse data content and higher application value. It has great advantages in information processing and data modeling. With the formation of the global economic integration pattern, the scale of each market is getting bigger and bigger, and more and more data are generated. Based on this, this paper briefly expounds the application of big data in information management, and puts forward relevant countermeasures, hoping to provide certain theoretical support and practical reference for relevant staff in the actual development process.*

Keywords: *Big data technology; information management; application; countermeasures; analysis*

1. Introduction

At present, the social situation is in the stage of rapid development, the dissemination of information is very extensive, the communication between people has become very close, and the living standard is gradually improving. Big data technology provides opportunities for the rapid development of society. Computer network information technology has ushered in new challenges and development space due to the rapid development of the era of big data. In order to make the computer network information technology develop rapidly, we should meet the great challenges we are facing.

2. Definition and Characteristics of Big Data

The rapid development of science and technology has provided greater space for the spread of Internet technology and the application of computer network information technology, thus ushering in a new era, namely the era of big data. Big data includes data information collection, data information storage, data information management, analysis and processing, which is unmatched by traditional data information collection and storage systems. The main characteristics of big data are: 1). Data capacity. It can store a large amount of data information. The size of data information determines its potential information value. 2). Diversity of data types. Massive data information makes the types of data information diversified. 3). the speed. The speed of data acquisition and information processing is very fast. 4). Authenticity. Accurate data information ensures the quality of data. 5). Variability. It has flexibility and variability, which is conducive to data processing and management. 6). Value. The rational use of data and information can generate great value.

3. Application of big data technology in computer network information management

3.1 Core technology of big data

The core technologies of big data include the following aspects: (a). Data acquisition technology. Data collection is the premise of realizing various functions of big data. Only with sufficient data support can we make use of big data for scientific and effective processing and analysis. (b). Data storage technology. Big data systems have a great demand for data, so a certain amount of storage space is needed to store data. In the big data system, due to the large amount of data, the storage of big data adopts the distributed storage method. A large amount of data is stored in the form of blocks on the data room nodes of different data centers, and the reliability of the data is maintained by means of copies. Data storage

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technology provides a basic guarantee for subsequent data applications. (c). Data processing technology. Data processing technology has greatly improved the work efficiency of big data systems. According to the different forms and structures of data information, the big data system applies different data processing methods to different data information, and integrates different data into a new data set. (d). Data mining technology. Data mining technology is the foundation of big data. The advancement of data mining technology has greatly promoted the development of big data technology. However, data mining technology is not perfect, there is still a lot of room for improvement. New data mining technologies such as special group mining and graph mining as well as the technical analysis capabilities of big data technology can be further improved.

3.2 Transmission and storage of computer data

In the information system of the high-tech era, data and data transmission are particularly important. With the rapid development of the times, the role of traditional information processing and transmission technology has gradually weakened, resulting in a great problem between the information reserve and the growth of a large amount of data. Therefore, the rise of big data has greatly improved the transmission and management of information. Therefore, the rise of big data has greatly improved the transmission and management of information. The authenticity of processing information with big data technology and the speed of information processing constantly improve the data storage and transmission of computer systems, which further strengthen the integrity, accuracy and scientific management of computer network technology. Big data technology plays a huge role in promoting the storage and transmission of data information, which further promotes the transmission of data information and ensures the integrity of data information transmission.

3.3 The impact of big data technology on data processing

In computer network information management, data transmission and storage are the most basic problems, while data processing and analysis are the most difficult. For computer network information database, it stores a large amount of data information. In real life, we only need to effectively analyze and process the useful data information to get the data information we want to know. Under the background of current social development, the massive amount of information and the diversity of data have a great impact on the extraction of information. With the advent of the era of big data, new data processing methods have emerged. First of all, the data is screened reasonably, and the data is processed and analyzed quickly and effectively, so as to extract the helpful data information in the shortest time. Big data technology effectively shortens the extraction time of data information, improves the application direction of data information, and greatly improves the quality of data information. The arrival of the era of big data has brought new information technology development directions, new technical requirements and new data collection and processing methods, which has raised the development of computer network information technology to a higher level, and carried out the technological reform of computer network information technology, it not only optimizes the management mode of computer network information technology, but also makes computer network information technology constantly innovate and improve.

3.4 Big data security

Big data is extremely valuable. We can obtain relevant data information such as customer groups and consumption forms in all walks of life through the analysis of the data. In the massive big data database, there are not only data information that is helpful to people, but also some personal privacy data. Through data analysis, it will have a huge impact on society and individuals. With the advent of the era of big data and the prospect of rapid development of computer network information technology, we can accurately predict the future development direction of society by analyzing and processing some specific data information. For the informatization development of government departments and institutions, the primary difficulty and breakthrough goal is ensuring the integrity, confidentiality and practicability of network data without causing huge impact due to information leakage and illegal use. With the rapid development of big data transmission technology and applications, security risks may appear in all aspects of the data transmission process, affecting people's quality of life. In the process of big data dissemination, in addition to the risk of disclosure and tampering, the information may also be used artificially, resulting in the gradual reduction of the authenticity of data information in the process of data information dissemination. Therefore, in the information age, people need to protect personal privacy and effectively improve the information security mechanism. The data information collected by big data has a lot of use value. Effective data information protection mechanism can be adopted to prevent some

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criminals from causing serious impact and loss to society and individuals based on data information.

3.5 Application of Virtual Technology

In computer science, virtualization is an access technology that combines or differentiates existing computer resources and enables those resources to operate in one or more environments, thereby providing better access than the original resource allocation. In practical applications, virtual technology is to analyze and study computer network information according to virtual resource information as well as process and improve data in accordance with the requirements of data information extractor, reducing useless processing in the process of computer data statistics and data interference. Virtual technology fundamentally strengthens the network information storage system, improves the work efficiency of some staff, and meets the requirements of data information extraction. The application of virtual technology in big data technology effectively makes up the disadvantage of computer network information technology, improves the mobility of computer network information management, and promotes the economic development in the era of big data. In addition, data with potential security risks can be filtered by using big data network intrusion detection technology according to different information management methods, so as to make sure the security of network information and data. Finally, the use of big data network intrusion detection technology can also realize the function of monitoring computer operation, which greatly improves the performance of computer network. At the same time, it also reduces the risk of computer network information being attacked.

4. Problems existing in the application of big data technology in information management

4.1 Insufficient mastery of information technology in enterprises and institutions

The important reasons for the failure of the information system construction of some enterprises and institutions can be attributed to the unsmooth business process of enterprises and institutions and the insufficient level of information technology in enterprises and institutions. Especially in some institutions, the correlation between business work and system informatization construction is not high, and there is a lack of relevant management talents and technical management capabilities. The purpose of developing information systems in enterprises and institutions is to strengthen the management capabilities of enterprises and institutions, standardize business processes, and realize scientific decision-making.

4.2 Lack of analytical skills

The key to an information management system is data processing and analysis. First, traditional information management systems cannot effectively process and analyze rapidly growing new semi-structured and unstructured data. Secondly, the real-time processing and analysis of data is the basic requirement of the information management system based on big data, and the current relational database system cannot process and analyze the real-time data. In addition, data visualization is the basic requirement of data analysis whether it is data processing or analysis and the person who processes and analyzes is an expert or a common user.

4.3 Data security is difficult to guarantee

On the other hand, the traditional data transmission method cannot solve the problem of cross-system data integration in the process of sharing and open dissemination and circulation of big data, so it is necessary to use a dynamic method to ensure data security. In addition, big data also needs to solve the problem of how to protect personal privacy.

5. The influence of big data era on computer network information management

The arrival of the era of big data has a huge impact on people's lives and social development, enriching people's living needs and improving people's living standards. However, the requirements of big data technology for computer network information technology are getting higher and higher. With the advent of the era of big data, the amount of data information is increasing, which brings huge challenges to the storage of computer networks. Compared with the traditional data storage system, the technology cannot meet the requirements of information storage in the era of big data, and cannot provide people with effective data information. The data will be damaged in the process of extracting data information when

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extracting data information in a short time. At the same time, computer network information security is also facing greater challenges. Some criminals use the data information obtained by big data analysis to commit crimes, which seriously affects the development of society and the security environment of computer networks. These problems require us to develop, improve and innovate the data information storage system, so that the data information storage system can meet the requirements of big data technology for data information storage. Big data technology has extremely high analytical capabilities, so data information with high commercial value and social value can be obtained through the analysis of data information. Therefore, it is particularly important to take reasonable and effective confidentiality measures for data information. It is necessary to further improve the confidentiality of data information, further develop and innovate computer network information management systems, reasonably supervise the process of data information transmission, maintain the environmental security of computer network information, and ensure the authenticity and accuracy of big data information.

6. Countermeasures to improve the application ability of big data technology in computer network information management

Big data is changing our work and life and constantly promoting business innovation, governance innovation and institutional innovation with the rapid development of information technology such as network speed and information storage. The development and application of big data, the integration of work, life and big data has become the requirements of The Times. With the advent of the era of big data, the competition in all walks of life is becoming increasingly fierce. Most enterprises are not satisfied with the current development direction of the industry, so they jump out of the traditional model of the industry to innovate and look for new development models. The application of big data technology in computer network information management has been promoted in various industries, and some enterprises have also benefited to a certain extent. The data information provided by big data technology upgrades enterprise technology and effectively improves the industry service mechanism through technical support. At the same time, the data information security mechanism of big data technology ensures the effective security of data information in all walks of life, such as enterprise confidential data, massive customer information, business information, financial information, etc.

In the management of big data information technology, the technical ability of employees is very important. Therefore, employees' work ability and big data information management should be paid enough attention. Enterprises should introduce excellent big data technology information management talents, improve the comprehensive level of existing big data information management personnel and the big data information management system as well as the authenticity of information management. In order to prevent the security and interests of their own information from being stolen, most people use various methods to protect some privacy issues and important information. People use analysis and authorization in the process of information backup and storage, which further reduces the occurrence of information security problems involved in the use of computers. The amount of information processed by big data technology is enormous. In order to ensure the security and confidentiality in the process of information processing, the government and other relevant departments need to participate, exert their functions, manage the data information evaluation system, supervise data information security, prevent information leakage and bad information intrusion, and ensure a safe environment in the process of big data information processing. Strengthening the standardization of network information management is an important measure of big data information technology in the application and management of computer network information.

In the specific application process of big data, in addition to exposing a large amount of information, it can also reasonably process some unstructured data that cannot be processed by traditional methods, so as to explore the correlation between different factors and different data and provide support for the formulation of scientific and reasonable countermeasures, which is scientific and empirical. Big data is not only a science and technology, but also a value and philosophy. The application of big data can help people change their cognition of life in the specific application process, produce different solutions when dealing with the same things, change the traditional way of thinking, and help people transform cause and effect into association. Everything is connected. Thinking through big data helps people explore new knowledge, increase wisdom, and improve work efficiency.

It is conducive for the dissemination and development of information technology to carry out technological innovation and continuous improvement of big data technology according to the current development direction of computer network information technology and the actual situation of network platforms, making big data technology play an important role in computer network information

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technology. For us, the purpose of computer network information technology is to analyze and utilize data. Through the circulation of information network, people's work efficiency and quality of life are improved. Information technology is becoming more and more important in modern society, and the role of data analysis is particularly important. Therefore, we should reasonably combine big data technology and computer network information technology according to the actual situation and formulate a perfect management model, so that computer network information technology can be more perfectly applied to people's life and production.

7. Conclusion

To sum up, big data technology has been gradually extended and applied to various industries with the development of the times and the progress of science and technology. It has outstanding advantages in network information management and effectively improves the efficiency of network information management. Big data is a feature of the rapid development of computer network information technology, which makes data that seems difficult to collect get easy to use. More value be created for human beings through continuous innovation of big data in all walks of life. At the same time, big data also further strengthens the application of computer network information management, replacing the traditional data management mode. It advances the development and innovation of enterprises, enhances the competitiveness of enterprises, strengthens the utilization of resources, promotes the stable development of the national economy and technology as well as improves people's living standards.

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