

# Opportunities and Challenges of Economic Development in *The Era Of Big Data*

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## ABSTRACT

In the context of the era of big data, social and economic development and innovation models are changing. The development of the world has created many new opportunities for social and economic development, but it has also inevitably brought many burdens and challenges. Keeping pace with the times and striving to achieve long-term coordinated economic development is an arduous task before us. By describing the characteristics of the era of big data, it analyses the opportunities and challenges of current economic development, and then introduces the strategies that should be followed for economic development in the era of big data, providing clues for economic development.

**Keywords:** *Big data, Economic management development, Economic challenges*

## 1. INTRODUCTION

With the development of the Internet and network technology, the ability of modern society to obtain information has been continuously improved, and the way of collecting and processing data has also become faster and more accurate. The era of big data is entering people's daily life, and it is also triggering changes in modern companies and markets. In the context of the era of big data, information data plays a vital role in the production and development of enterprises. However, the development of anything has two aspects. While big data provides opportunities for economic development, it also brings challenges. How to accurately grasp the characteristics of the times and grasp the current economic development opportunities is an important issue facing the modern society.

## 2. MATERIALS AND METHODS

### 2.1. Characteristics of Big Data

#### 2.1.1. Rich Data Types

With the continuous improvement of the economy and society, people's living standards have gradually improved, and their pursuit of life has become higher and higher. In particular, the development of network technology has created more convenient conditions for

personalized service. Through accurate detection of public needs, targeted dissemination of relevant content, to meet the individual needs of the public and provide a mass basis for the promotion and development of big data information. The richness and diversity of big data information can meet different needs, which is also one of the basic characteristics of big data. There is a wide range of big data collection channels. Through the background screening of common channel information, search keywords, etc., based on the user, the content that is suitable for the user is recommended to the device side. The information is continuous and accurate through accurate calculation. When the public uses the terminal, a large number of logs are generated, and the logs become part of the data. The operating mechanism of big data is basically to calculate information according to the corresponding structure, which can replace the manual construction of various economic models, improve efficiency and save a lot of labour costs, which is indispensable for future economic development.

#### 2.1.2. Huge Amount of Data

In the context of the era of big data, information resources can generate huge storage space and build a huge data resource library. With the innovation and change of storage devices and methods, the initial MB storage has gradually evolved into TB capacity, and now there are concepts of EB and PB storage. The storage capacity of the quantitative unit may also reflect the size

of the current information base page [1]. In recent years, the popularity of smart electronic terminals such as mobile phones and PDAs among the general public has also created a good platform for enriching big data. People use mobile phones to obtain necessary information and other information, and also leak information to the outside world through mobile phones.

At the same time, the emergence of various APPs is also generating a large amount of data information at all times. Public life has entered the era of intelligence, and the dissemination of data has been pushed to an unprecedented peak[2]. Internet companies have aimed at the “cake” of big data and invested a lot of manpower and material resources to research big data, such as Huawei, Tencent, Ali, etc. are very important to its research. The operation of the terminal application produces a huge amount of data information[3], the analysis of this information can not only accurately obtain the user demand information, but also to a certain extent reflect the direction of the macroeconomy. Therefore, mastering the huge information of big data is not only what Internet enterprises should do, but also an essential research content for modern enterprises. Enterprises should adopt scientific means to integrate and analyze big data information to meet various decision-making needs of enterprises.

### *2.1.3. Extracting Value Data*

The current society is the era of rapid dissemination of information, a huge amount of data is generated every moment, how to be able to filter out the useful information data in the massive data storage is an important issue in front of the researcher. Only the process of data generation and storage with potential value and the real distillation of the corresponding information, and to be used, is the real value of big data.

In the process of data dissemination, the amount of meaningless and low-value information generated is very large[4], and powerful big data technology is needed to filter and refine valuable information data. The biggest value of big data application is to fully explore the potential value of the data, and after various models of repeated refinement and simulation calculation, to filter out the accurate data information for the users of information.

### *2.1.4. High Efficiency of Data Generation*

The generation of big data revolves around the life and production of the public and generates a large amount of data every moment, especially after the popularization of intelligent electronic terminals, various data information is spreading wildly, and also makes the dissemination efficiency of data information is greatly improved. The Internet is gradually taking over people’s lives, whether it is the records and logs generated by

chatting and reading the information, or the specific needs raised by online shopping and consulting, all are very valuable data information. These huge data information needs real-time processing to realize its maximum value, and the data information processing that is not timely will also cause pressure on the corresponding platform. The generation of big data information is showing high efficiency, the processing of big data must also follow the rhythm, processing data to focus on the effectiveness, the value of expired data information itself will be greatly reduced.

## *2.2. Opportunities For The Economy In The Context Of The Big Data Era*

### *2.2.1. Richer Types and Sources of Big Data*

With the popularity of intelligent electronic terminal devices, various types of APPs have emerged, and the amount of data information generated is rising, while the types of data are also richer. The application of big data is becoming more and more widespread, and through the summary and analysis of big data structured, it can reflect the current macroeconomic development trend. In modern society, the types and sources of big data are richer, showing diversity, which also provides a good resource base for the application of big data. The generation of data includes various types of videos, pictures, consultations, keywords, etc., and also gathers the dynamics of various industries. This is very advantageous for the country to grasp the macroeconomic situation, and more accurate and objective for enterprises to orientate themselves to find market demand. The rise of big data has also contributed to the development of data statistics.

### *2.2.2. More Efficient Data Processing And Collection*

In the background of the big data era, data is generated anytime and anywhere, and the collection of data is more direct[5]. Merchants can release product promotion information through various platforms, and users can also put forward their evaluation of the corresponding information and the product promotion received, and the data exchange of this information makes the data processing more efficient. In the era of intelligence, the collection and processing of data and information have become more accurate and efficient, and merchants can also respond to the first time the data is generated, analyse the data and information in time, and then prepare the data for the next decision.

### *2.2.3. Big Data Makes Things More Transparent In Terms of Cause and Effect*

The application of big data has largely replaced manual work, and it is also processing data information

more efficiently and accurately, big data can handle many situations that cannot be done by manual work, such as the reasonable collection, analysis, and collation of data information in a limited period. Through the timely screening and sorting of information, people can get more intuitive data information and discover the cause and effect relationship of things in a more timely manner. The timely interception of data information of current things and the connection of many related data, and then analyze the occurrence, development, and possible changes of current things, that is, the regular summary of the development of things, which is another value of big data application.

#### ***2.2.4. Big Data Will Lead The Innovation and Change In The New Era***

The role of big data has been undoubtedly, and its application value can be reflected both at the level of national regulation and development trend prediction of the industry[6]. It can be said that in a period in the future, big data will lead to the innovation and change of the new era. At present, the application and development of big data are established in the screening and collation of effective data, which is a very important data orientation for an enterprise's directional decision. By integrating big data, enterprises can discover market opportunities, adjust strategic deployment, accelerate structural innovation and reform, and improve the efficiency of business management promptly. The application of big data will certainly have an impact on the business model of traditional enterprises, and enterprises that can grasp the current opportunities will gain rapid transformation and development, and vice versa may be eliminated by the market. In the era of big data, in which enterprise has mastered more accurate and efficient data information, it also means mastering the dynamic information of the market. Big data is an important product of the information age, and will certainly lead to innovation and reform in the coming period.

### ***2.3. Challenges To Economic Development In The Era of Big Data***

#### ***2.3.1. Big Data Information Selection Has a High Degree of Difficulty***

There are various types of big data generated, such as pictures and videos. The collection and processing of information would be impossible to achieve simply by one means. How to be able to extract useful value information from the huge data information is the current difficulty of big data applications. The richer the type of data and the larger the amount of data, the more the accuracy and authenticity of data processing will be tested. First of all, the generation of data is carried out every moment, the value of this information is relatively low, the authenticity of the information extraction cannot

be guaranteed. The current data information algorithm must be designed more precisely to extract relatively real and accurate information; secondly, the type of data information generated is very rich. In addition to the text category, it also includes video, pictures, audio, and other forms, which The generation of semi-structured and unstructured data undoubtedly adds difficulty to the screening of effective information.

#### ***2.3.2. The security factor of data information is relatively low***

The basis for the generation of big data is already available, and the future development of big data will be more and more abundant and huge both from the perspective of type and quantity. At the same time, the biggest challenge facing big data is the security of information. The accuracy and security of data information are becoming the hot spot and core of big data research. The security factor of big data information must be raised to a certain level to ensure the security of data dissemination so that the significance of big data can be truly reflected. Firstly, it is necessary to protect the corresponding information in the process of collection and screening of big data in multiple layers, and if the information data is excessively concentrated together it will inevitably be stolen by unscrupulous elements, which will increase the unstable factors to the society; secondly, the generation of big data relies on the non-relational database, which largely causes the instability of data information and is the main reason for the risk of information leakage.

#### ***2.3.3. Intelligent data and information analysis***

Information data has been developed for many years with the characteristics of the times, but at present, there are not many enterprises that research big data information, only concentrated in a few large Internet enterprises, and the data information technology is also mastered in some enterprises. Under big data, data analysis technologies mainly Hadoop and MapReduce are being researched and promoted, which can largely bring into play the advantages of easy-to-use and fast processing of data information[7].

### ***2.4. Strategy Analysis Of Economic Development In The Era Of Big Data***

#### ***2.4.1. Build a good macroeconomic analysis environment***

Big data can play a great role in economic development, but the premise is that big data can be valued by the state, and provide a benign "soil" for the development of big data at the policy and legal levels to ensure the objectivity and security of big data information. The development of big data is inseparable

from the common participation and maintenance of the state, enterprises, and the public, and as the application of big data becomes more and more widespread, it is more important to build a good macroeconomic environment to ensure the benign development of big data.

#### *2.4.2. Strengthen Data Information Management and Collection*

To ensure the effectiveness of data collection, the activities of data information collection, management, and preservation should be actively carried out to improve the statistical quality of data information. The characteristics of wide and fast dissemination channels of information data are both advantages and easy to use by unlawful elements. False, violent, and other negative information may also use in the data dissemination channels for illegal propaganda, which can cause misunderstanding in the public's information awareness. This requires legitimate monitoring in the process of collecting and organizing big data, establishing correct channels and management paths, effectively screening illegal propaganda information, and preserving information data with value. This is both a challenge to data statistics and a key initiative to improve them.

#### *2.4.3. Improving The Analysis of Macro Data*

The progress of macroeconomics is a joint effort of the whole society.

In the process of analysis of macroeconomic data, the advantages of big data should be fully recognized, and the characteristics of big data should be fully analyzed together with the characteristics shown by macroeconomy[8]. A new macro data theory should be established to show the direction for the needs and development of macroeconomy. Big data information is becoming one of the bases of macroeconomic data. It has become a hot spot of macroeconomic research to establish macro data theory. Furthermore, it has fully combine the development of macroeconomics with the development of big data[9].

#### *2.4.4. Strengthen The Cultivation of Macroeconomic Analysis Talents of Big Data*

The development of any new thing is inseparable from the participation of talents, and the advantages of big data have been fully revealed so far, and the corresponding talent reserve and cultivation must be established in the future to give full play to the value of big data. Both the state and enterprise levels should pay attention to the exercise and cultivation of macroeconomic analysis talents[10], improve the combination of Internet and macroeconomy, cultivate data statistics talents with high comprehensive quality and strong analysis ability, accelerate the application of

big data in enterprises, and improve the comprehensive ability of enterprises to cope with the economic market.

### **3. CONCLUSION**

The development of big data and big data technology has played a great role in the progress and transformation of society and the economy. As the characteristics of the big data era become more and more obvious, it is both a new challenge and a rare opportunity for the current society and enterprises. Although the current big data information still faces problems such as low information security factors, strong professionalism and lack of talents, the advantages of big data have been recognized by most enterprises and are actively exploring the field of big data. Enterprises should be fully aware of the macroeconomic development dynamics in the era of big data, such as the potential of big data has been more explored. The current has been under the dominance of the platform economy, business development presents a new ecology, etc. Understanding the needs of society and market trends, enterprises can target product and service innovation, thus improving their viability to ensure their sound development.

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