

# Research on economic development strategy based on big data

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**Abstract.**Since the 21st century, data has grown exponentially, and the world has entered the era of big data. In the era of big data, the core assumptions and research methods of economics have changed, and data-driven development paradigm has gradually become the main development paradigm of economics. From the perspective of economics and economics, this paper expounds the impact of economics, economics and Economics on the development of data driven models. The research in this paper is conducive to in-depth understanding of the development and changes of economics in the era of big data, and can promote the public to better participate in economic activities and understand the operation of market economy in the information age.

## 1. Introduction

Big data is profoundly affecting the development of the whole social economy. From the perspective of economic analysis, at the micro level, big data research initially focused on industry research, business analysis and enterprise application, and gradually affected all aspects of economic model framework analysis. At the macro level, the use of big data methods and technologies to promote macroeconomic research has begun to attract international attention, and there are many governments and institutions to carry out specific operations. From the domestic situation, there are few researches in this field, and the government does not pay enough attention to it. Therefore, the purpose and significance of this review is to discuss the role of big data in macroeconomics and microeconomics, and to arouse the doctrine of academia and government.

IDC, an international data company, believes that big data will lead to important changes in the financial industry. China's financial industry should first plan for big data at a strategic level and actively respond to the challenges of the big data era, drive and establish data driven development. The birth of big data economics was born out of better opportunities and more opportunities for accurate data to emerge at the right time.

Economic Research in the age of big data is a project that goes beyond the cost of the project and includes the market, society, and individuals.

## 2. Big data

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With the development of Internet. The total amount of information is growing explosively at an unprecedented speed. Human society has entered a new era of data and information with "Pb" (IPB = 1024tb, ITB = 1024gb), that is, the era of big data. Big data refers to huge and diverse data sets. The processing of these data is beyond the capacity of current mainstream software. Therefore, it is necessary to improve the tools for data processing. At present, it is generally believed that. The typical characteristics of big data can be summarized by "4V", that is, large-scale, rapid, diversified and valuable. One is the huge amount of data. Second, the processing speed is fast. Third, there are many types of data. Fourth, the value density is low[1].

### 2.1.The impact of big data on decision making

A decision is a trade-off or choice between different goals. Most of the traditional decision-making methods adopt causality theory, that is, m prediction data are obtained by analyzing m known data, and the choice is made according to the prediction data. In the big data era, decisions are made in real time, based on massive amounts of data, to make decisions more quickly. Various e-commerce platforms make full use of big data analysis to provide people with cost-effective products and quality sellers in a timely manner.

### 2.2.The impact of big data on the center of gravity of human life

MASLOW'S HIERARCHY OF NEEDS theory divides people's needs into five levels, but in the final analysis, it is the needs of material products and spiritual products.

With the rapid development of information technology and social economy, the scarce resources in the era of big data are spiritual products, ranging from literary works to video games, from concrete audio-visual products to virtual network world, etc. , the main form of these products is digital. Therefore, the human from the material survival to the virtual, digital survival. Digital Survival provides more freedom and development space for human beings, further satisfies human's own development and spiritual needs, and cultivates human's individuality and innovation.

### **2.3.The impact of big data on market structure**

In the era of data economy, the state of the independent existence of the traditional economic elements no longer exists, and the economic attributes of various natural and social resource elements are represented in the form of large-scale discrete data. For example, the major shopping malls and supermarkets, the price, model, function and other information can be represented as a two-dimensional bar code discrete data. The discrete data is identified by a scanner and transmitted to the Internet for analysis, storage and processing. This way of expressing, spreading, and dealing with Information asymmetry has given rise to the unbounded and discrete boundaries of the firm, and the market structure is no longer a form of complete competition, complete monopoly, etc., it presents a dual mode of value creation and value realization.

### **2.4.Big data's impact on business models**

With the popularity of the Internet, online shopping has become a new trend of fast shopping. Through the analysis and collation of big data, e-commerce platform analyzes consumers' commercial consumption habits and consumption preferences, thus carrying out the segmentation of customer groups, and realizing precise marketing, design and create appropriate products and services to meet their needs. At the same time, by means of social network and group purchase, we can provide different, personalized and diversified demand service for different customers and realize the diversification of marketing strategies. Use Data Science and big data to Parse, re-engineer, and optimize business processes. For example, Haier Group to "market chain" as the link of business process reengineering is a successful model, greatly enhance the international competitiveness of Haier. Uniqlo of Japan will "supply and marketing" three links into a line, unified internal management, the formation of 8PA free brand professional retailer business model, Big Data Economics should first make progress in the field of practice and application, and then promote and deepen theoretical research. The formation process of big data economics is the development process of modern science and technology. The intelligent development and application of big data economics will become a new research commanding point. With the development of big data technology and

the change and expansion of the characteristics of big data, big data economics will become a hot new subject.

## **3. The impact of big data on Economics**

### **3.1.The core assumptions of economics have changed**

Limited resources and unlimited demand are the core assumptions of traditional economics. The purpose of economic research is to effectively allocate the limited resources to meet people's needs. Therefore, the research on the efficient allocation of resources and the relationship between supply and demand has always been the core of economics. Before the advent of information society, the production factors of tangible land and capital in agricultural society are limited in total amount, and tangible resources are exclusive, which is reflected in the scarcity and selectivity of production possibility curve in microeconomics. The unit of measurement of information is bit, which has a power law of 2. Therefore, the growth of data also shows a power law (i.e. exponential change). It can be seen that information and the knowledge generated by the processing, refining and systematic exploration of information, as the core production factors of the information society, have the characteristics of sharing and unlimited growth. The marginal cost of data and information resources sharing is zero, which makes the information have the obvious law of increasing scale. This will expand the production possibility curve as never before. It makes economic development break through the marginal effect of scale economy, and can achieve continuous growth. Therefore, under the background of big data era, the assumption based on limited resources has been impacted, which has a significant impact on the research of economics[2].

### **3.2.The relationship between supply and demand in economics has changed**

Supply and demand analysis is a core analysis method of economic analysis framework. In the era of big data, the core assumption of supply-demand relationship based on resource limitation has undergone significant changes. Big data can improve the limited supply of production factors to a certain extent. Big data has changed the original spatial pattern of supply and demand and created a new supply-demand relationship at a higher level. In agricultural society and industrial society, point-to-point regional market is the basic spatial pattern of supply and demand. In the information society, the development of information technology has broken through the regional barriers and restrictions, greatly changing the spatial pattern of supply and demand in traditional society. From the perspective of suppliers, the development of big data technology makes intelligent manufacturing, zero inventory and sharing economy possible, which improves the competitive advantage of suppliers. From the perspective of demand side, big data enables buyers to master product information more comprehensively and

quickly, and occupy an active position in the transaction, thus forcing producers to provide better products and services. Therefore, the development of technology in the era of big data has jointly improved the ability and level of both sides of supply and demand, thus building a new relationship between supply and demand at a higher level[3].

### **3.3. Breaking through the limitation of economic causality**

Exploring the internal relationship and causality between economic phenomena has always been the research goal of the traditional economic model driven model. In the research of traditional economics, economists explore the potential characteristics of the development of things according to the research process of economic disciplines, and explore the causal relationship between things. In the era of big data, the research based on data-driven model is based on mastering massive data information and directly analyzing and synthesizing. It not only enhances the correlation between many things, but also weakens the causal effect, which makes the economic value of research expand towards depth and breadth[4].

### **3.4. Challenges to economic modeling**

In the era of big data, economic research uses cloud computing and distributed processing technology to build a massive data model about a certain research object, so as to achieve the most close to the real data research results. The data model in the era of big data can improve the shortcomings of traditional economic modeling and obtain the data analysis results closest to the satisfactory value, which is conducive to reducing the interference degree of irrelevant factors on the research results. In contrast, the traditional economic research needs to rely on professional teams and professional machines. The research threshold is high and the research conditions are relatively simple, which will make some research impossible to complete under simple conditions. However, the economic research under the background of big data can use cloud platform computing, so as to widely handle social data analysis and economic dynamic trend research[5].

### **3.5. It has predictive learning function**

Due to the lack of data in the traditional economic research process, the traditional economic model driven research paradigm has a great lag. The research results lack of forward-looking thinking and prediction function, which are embodied in the following aspects: the conclusion is fuzzy, the trend is difficult to locate, human factors interfere, and the accuracy is poor. In the era of big data, data-driven research can reduce the time difference between known information and predicted information through real-time large-scale data sets. At the same time, the development of data science further weakens the analysis and demonstration of experts, reduces the loss of human factors on the value of original

data, thus making the prediction of research results more accurate[6].

## **4. Economic development strategy based on big data**

### **4.1. Improve the decision-making efficiency and management ability of enterprises in macro and micro level**

The purpose of economic research is to solve the problems in the process of real economic life, and finally put forward corresponding solutions at different levels. From the perspective of practical application, financial enterprises in the era of big data use big data to analyze the needs of value customers, so as to make corresponding strategies and realize economic benefits. For banks, the focus of development is to find potential customers and tap the corresponding value of customers. Banks use advanced technology such as data mining to analyze customer data, so as to accurately locate target customers, optimize customer marketing and service strategies, and make them become value customers. In recent years, the financial industry has used big data analysis to obtain customers, business customers and service customers, which can effectively improve the decision-making efficiency and help financial institutions realize the fact centered business method. In addition, it can make suggestions for financial institutions to use large amounts of data to predict large changes in the market, and can also help financial institutions to make decisions from static data to big data. Due to the lack of storage and analysis capability, through the construction of the underlying platform of big data, the traditional database can be replaced regardless of the scene, and the storage and analysis of more diversified data such as text, picture and video can be realized, so as to effectively improve the data asset management ability of financial institutions[7].

### **4.2. Big data can realize accurate marketing service**

Precision marketing is an important marketing method under the influence of big data. Through the analysis technology of data mining, enterprises can accurately locate consumers with different needs, so as to achieve different marketing services and reduce marketing costs according to the characteristics of different groups. From the perspective of theoretical research, the data economy research in the era of big data undoubtedly replaces the traditional economic research. Taking advantage of the massive data characteristics of big data and the powerful computing power of big data, it can completely subvert the traditional economic hypothesis method, and more directly and real-time analyze the economic data to discover the internal change rules of the economy, so that enterprises can better use big data. To identify customer needs, create a good customer experience, improve the comprehensive competitiveness[8].

## 5. Conclusion

Big data is closely related to life, and it has a far-reaching impact on all aspects of development. From the above analysis, we can see its role in economic research. However, the development of big data is not perfect, and there are also some problems, such as secrecy. These important problems still need to be improved by some talents, so as to promote big data to play a more important role in economic research. More effective role, so as to further promote economic development. In addition, if we want big data to continue to play a role in the economy, we also need to improve its security and data collection and processing capacity, so that its safety and accuracy can be guaranteed at the same time, in order to more effectively promote economic development.

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