Research on Technology Innovation Management in Big Data Environment

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Abstract: With the continuous development and progress of the information age, the demand for information is getting larger. The processing and analysis of information data is also moving toward the direction of scale. The increasing number of information data makes people have higher demands on processing technology. The explosive growth of information data onto the current society have prompted the advent of the era of big data. At present, people have more value and significance in producing and processing various kinds of information and data in their lives. How to use big data technology to process and analyze information data quickly to improve the level of big data management is an important stage to promote the current development of information and data processing technology in our country. To some extent, innovative research on the management methods of information technology in the era of big data can enhance our overall strength and make China be an invincible position in the development of the big data era.

1. Introduction
At present, it is an era of information explosion, the explosive growth of information data have brought more data amounts of information that we encounter daily. In order to ensure the normal operation of social life during the information explosion phase of economic development, effective management of information data is very important. This is also a management topic that needs to be emphasized on the context of big data. According to the development characteristics of the era of big data, the traditional management methods should be improved to improve the efficiency and quality of big data management so as to ensure the normal operation of social production and living while improving the comprehensive competitive strength of our country. It has enabled our country to remain invincible under the circumstances of big data.

2. Basic Overview of the Big Data Era
The definition of big data onto the encyclopedia refers to "a collection of data that can not be captured, managed, and manipulated with conventional software tools for a period of time, requiring new processing models to have greater decision-making power, insight and discovery and process optimization massive capacity, high growth rates and diversified information assets. "Big data" was first proposed by McKinsey as an important productive resource in social production. At this stage, all aspects of social production and life have already been involved in the development and change of big data [1]. Different from traditional data information, big data information has its own outstanding features, which can be summarized as: Volume, Variety, Value, Veracity. The diversity of which mainly refers to the type of big data content is very diverse, generally presented in a virtual form. Code composed of virtual information mainly graphics, sound, video, etc. as a carrier, so that more diversified and diversified big data information; high speed mainly to reflect the current big data
information update faster, more time-efficient development [2]; While the low value density mainly reflects the data information about the era of big data is comprehensive and complete information, rather than the processed and integrated information data. This will make all kinds of data information indispensable to the transmission of information generated garbage, people's ability to distinguish the information and data have higher requirements. This outstanding feature will affect the accuracy of data transmission to some extent, and thus have a negative impact on the economy depending on the development of information.

3. The Status Quo of Social Development in Big Data Environment

3.1 Low Level of Unstructured Big Data Information Processing
In the era of big data, the largest difference between unstructured information and traditional data is the abundance and variety of unstructured information. Compared with structured information, unstructured information is more complicated and the processing and analysis is more difficult. Because unstructured information has relatively long fields and units per field may vary, enhancing the ability and level of unstructured information processing and analysis is one of the major challenges in today's big data environment.

3.2 Processing of Data and Information lacks Timeliness
In the process of market economy development, the main body of the market economy are weakly connected, but the quantity and type of big data information are very complicated. Therefore, the economic entities' access to information data is relatively simple and it is likely to cause a great deal of negative impact on information data. The situation is not accurate enough to obtain. And in the big data environment information data update very quickly, different access methods may lead to access to information about a certain degree of lag. This will largely affect the accuracy and timeliness of the market economy to receive the information, will have a significant impact on the economic development of the main goals and development strategies [3].

3.3 Lack of a Strong Professional Big Data Management Personnel
Under the environment of big data, the management talents that are most in need of technical innovation management with high professionalism and high comprehensive quality are most needed. However, at present, the practical abilities of big data management talents in our country are relatively weak, and the professional abilities and comprehensive qualities also have big defects. In particular, the predictability and processing power of data information will greatly affect the economic performance of data subjects and the accuracy of the receipt, thus affecting the development of the main body of economic development units to develop the accuracy and effectiveness of the strategy. The lack of professional management of big data technology is an important problem of technological innovation management under the current big data environment in our country.

3.4 Safety of Data and Information is Facing Challenges
In the development of the information age, to ensure the stable transmission of information and data is the key to ensure the security of information and data. However, in the era of big data, because of the large number and variety of data and information, it increases the possibility of information leakage during transmission. Therefore, how to improve the security of big data is also the challenge that the current data management must face.

4. Research on Two-way Decision Making Model of Technological Innovation Management Established in Big Data Environment

4.1 Overview of Two-way Decision Making Model of Technological Innovation Management
In order to better cope with the challenges brought by the big data environment to social production
and life and grasp the opportunities brought by the big data environment, according to the current status of technological innovation management under the current big data environment in our country, a two-way decision model, which is a parallel decision model between the goal-driven model and the data-driven model, is shown in Figure 1. The two-way driving model, which is driven in parallel with the data-driven mode, mainly relies on the following contents: On the one hand, the traditional target-driven mode is improved and innovated, and the new target-driven mode is enhanced to the information data mining technology. New target-driven model to capture, process and analyze the technical capabilities of information to build a target-driven model based on information evaluation and information prediction; on the other hand, according to the current situation of social development in the big data environment and the complex information and data environment currently facing, researching on the processing and analysis of big data information, putting forward new processing methods and treatment ideas, establishing real-time dynamic monitoring system, strengthening the monitoring of information data, effective warning and processing of sudden information data and establishing efficient information data early warning system [4].

Figure 1 "Bidirectional" decision-making model of technological innovation management in big data environment
4.2 Application of Bidirectional Decision Model in Technological Innovation Management

The bidirectional decision-making model of technological innovation management is more obvious in the network education of community education. This model focuses on big data information. The main application advantages are as follows: (1) It contains a large amount of scientific and technical documents, including published periodicals, patents and other academic papers as well as a variety of research reports, minutes and other data to enrich the information network education community education, network education community education to a higher degree of professionalism. (2) The model can also analyze and process the public opinion data according to the network data information and enhance the interactive education of networked education in community education. At the same time, according to the processing and analysis of social network data information, the model can monitor the actual situation of networked schooling and effect, is conducive to community education online school to improve and optimize. (3) Establishing this model in network education of community education can also integrate and categorize all kinds of information and data in school education, improve the efficiency and level of running a school, and help to analyze government policy information and ensure that networked schooling accords with the society development trend, the relevant government policy information, with a certain foreseeability.

5. Technology Innovation Management in Big Data Environment

5.1 Strengthen the Monitoring of Big Data Information

The focus on technological innovation management in big data environments lies in the ability to process and analyze unstructured data and information. This requires the main body of the market economy for real-time monitoring of big data and information in the process, we must establish a high level, engaged in technical professional data monitoring platform. In this monitoring platform, not only traditional structured data information should be monitored and processed, but also the current unstructured information should be effectively processed and analyzed. This will help all economic entities to deal with and analyze the changes in the development of data and information in the market economy. They will then formulate their own development strategies in line with their own development so as to promote the technological innovation and development of economic agents.

5.2 Improve the Training of Big Data Processing Talents

Big data era lacks talent, especially for large data processing professionals, many current economic entities hired big data managers lack of expertise, the level of big data management team is relatively low, will affect the efficiency and quality of big data processing analysis to some extent. With the continuous development and changes in the era of big data, more information data updates and development require more high-data management professionals, especially for non-structured data information processing talents such as graphics, sound and video Demand continues to increase. Therefore, it is necessary to strengthen the training of big data management personnel and to deliver a large number of professional big data technology innovation management personnel for the development of market economy. The training objectives of big data management personnel include the following: (1) to have a certain knowledge of marketing theory and IT technology. The main reason are that more and more economic industries rely on big data information management, requiring managers to have some understanding of marketing in order to promote the development of big data industry. And the continuous update of computer technology makes the importance of IT technology more noticeable. This requires that big data managers have skilled IT skills and be familiar with the computer software that is frequently used today. (2) Good predictability and information processing ability. Information processing capabilities is the professional capabilities that big data managers must have, and it is equally important to predict the direction of market development based on the results of information processing and analysis. In this way, the main body of the market economy can formulate the strategy of the next stage of development based on the information forecast [5].
5.3 Strengthen the Internal and External Market Players, and Enhance the Market Economy Cooperation

The update of big data information is very fast, therefore, the current data information is more time-efficient. If all the economic entities operate independently, it is likely to cause a breakdown of data and information and may make economic subjects receive and process data information errors occur, affecting the development of economic entities related to the development strategy. Therefore, in the process of technological innovation management under the environment of big data, it is necessary to strengthen the internal and external connections to all economic entities, mainly from the following aspects: (1) To strengthen the linkages between higher and lower levels. Mainly refers to the management and executive level of contact and cooperation, so as to form a strengthening of the internal linkages, and promote the healthy development of enterprises in the big data environment; (2) To strengthen the external relations between economic entities. Under the circumstances of big data, in order to improve the accuracy and reliability of information and data and strengthen the interrelation among economic agents, a "chain of ecological development" can be formed, which can promote the further development of economic entities. The formation of a benign market competition mechanism is conducive to promoting a better and faster development of China's market economy [6].

6. Conclusion

In short, with the continuous increase in the amount of information and data, the big data environment has infiltrated every aspect of our life. Especially with the continuous improvement and development of market economy, the development of various economies can not be separated from the development and changes of big data. The problems and challenges encountered with the big data environment will affect the pace of market economy to some extent. This requires the relevant economic entities to improve the existing technology management methods according to the changes of the big data environment, innovate the management methods and improve the technical management level in the big data environment. Innovation can be carried out in the following aspects: (1) Comprehensive monitoring of big data information, grasping and understanding of the latest information data and formulating relevant development strategies based on the information and data available so as to ensure that economic operators can work normally; (2) Emphasis on the cultivation of professionals. Technical management in big data environment requires extremely high professional competence and overall quality of the staff. Professional data analysts must be hired to meet the needs of economic development to ensure the accuracy of data analysis. (3) Full consideration should be given to public opinions. The masses of the people are the main body to promote the development and change of the big data environment. When conducting technological innovation management, they must be good at making use of the big data information platform to fully consider the opinions of the general public, ensure that the management methods are in line with the general public and are conducive to promoting economic development. (4) Integration of market economy resources. In the environment of big data, the most important one is the comprehensive analysis and processing of all kinds of information and data. In order to improve the efficiency of management, the information and data resources of the market economy must be effectively integrated and focused on the development. The above methods can better promote the development of China's market economy under the environment of big data, enhance the comprehensive competitiveness of China's market economy and seize the opportunities brought by the big data environment.

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