

Research on Optimization of Education Management Mode in Big Data Era

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Abstract: with the Full Opening of the Era of Big Data, Education Management Has Been Deeply Affected, Which Has Ushered in New Opportunities and New Challenges. in the Era of Big Data, the Existing Education Management Model Has Many Problems Such as the Relative Lag of Educational Information Management, the Single Way of Data Research and Acquisition, and the Lack of Education Management Data Mining. Therefore, It is Necessary to Be Based on the Above Problems and to Be Problem-Oriented. Data Platform Implementation Transformation and Upgrading, Optimization of Education Management Data Research Acquisition Methods, Improve the Literacy of the Faculty Team, Create Favorable Conditions, Provide Strong Support for the Integration of Big Data into Education Management, and Thus Promote the Optimization of Education Management Mode.

1. Introduction

Big data technology has obvious advantages in data collection, analysis, mining, processing, etc., and can effectively exert the actual utility of data. In the context of the era of big data, the application of big data technology and methods in education management can significantly improve the actual efficiency of education management, and promote the level of education management and decision-making to a new level. It can be said that, to a large extent, big data has brought more benefits to education management, which has brought new opportunities to education management. However, under this situation, information management is lagging behind in education management mode, and data research and acquisition methods are single. Drawbacks such as insufficient data mining are also becoming more prominent. In fact, education management is facing enormous challenges. What kind of countermeasures are adopted to effectively and effectively address these challenges is an urgent problem to be solved in the optimization of the education management model. Therefore, based on the era of big data, this paper starts from the meaning of education management and its data characteristics, and analyzes its challenges, and proposes effective strategies to deal with it, thus promoting the optimization of education management mode.

2. Education Management Meaning and Its Data Characteristics

2.1 Meaning

Education management is essentially a process of practice and balance between educational objectives, educational tasks, educational methods, and benefit assessments. The logical framework is shown in Figure 1.

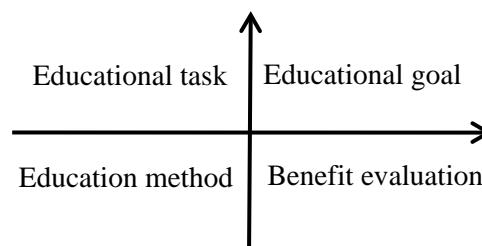


Fig.1 Education Management Logic Framework

Among them, the educational goal is a relatively comprehensive expected indicator in education

management, which covers the expected results of education at the technical level and the expectation of educational value. In the whole process of education management, the educational goal should play a leading role from beginning to end; the educational task is the continuous practice process in the process of education development reform, and it is generally implemented in the process of management; the education mode is the key element of education management, The main components include the tools used to complete the educational tasks and achieve the educational goals, the means and techniques used; the evaluation of benefits is more diverse, mainly to evaluate the actual effectiveness of education management, and the main body of assessment includes administrative departments and educational evaluation agencies. Schools, teachers, parents, students, etc. The assessment targets mainly include regional and school education development, student quality development, and teacher professional development. The above information on educational management elements is relatively complex, and the specific performance is large and diverse. More importantly, there are dynamic and complex data relationships among multiple elements.

Education management pays more attention to the quality of education, which is value rationality. Therefore, the education management process and methods need to be gradually rigorous and professional, in order to continuously improve the quality of education, the key to this is the tools used in the education management process. Only by making education management processes, technical methods and other tools effective and stable, can education quality be guaranteed and achieve educational goals. In the era of bi data, with the deepening of science and technology, education management tools are also iteratively upgraded, which requires the integration of big data technology into education management to promote the optimization of education management model.

2.2 Data Characteristics

In education management, many factors such as educational goals, educational tasks, educational methods, and benefit evaluations contain complex data, which constitutes big data for education. Therefore, education management also has basic data characteristics, as shown in Figure 2 below.

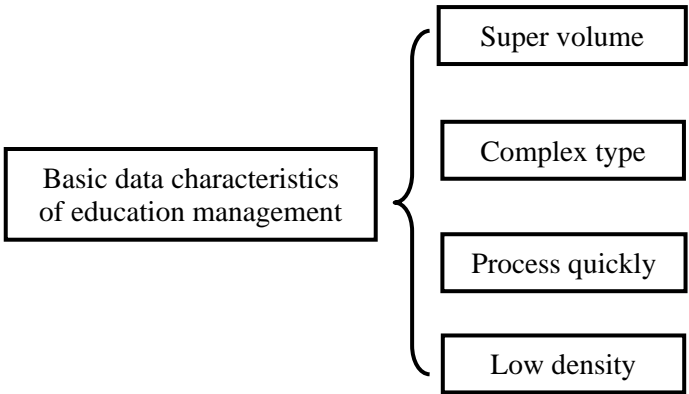


Fig.2 Basic Data Characteristics of Education Management

First, super volume. Based on the “data” perspective, the data involved in education management is complex, large and diverse, and the specific characteristics are super-volume. Whether it is the public cloud of regional education or the private cloud of a school, its data platform cannot use the existing GB-level resource server in the era of big data. Obviously, it cannot effectively process education management big data based on existing database servers.

Second, there are many types. Education itself is a large and complex system. Education and social interactions are carried out at all levels and in all fields. The amount of data generated by interactions between each other is large and diverse. Therefore, another basic data feature of education management is characterized by a wide variety. Under such a large variety of data representation, the education system uses “divisions” in the cloud, text and other formats to create a broad and large educational virtual reality.

Third, the speed of processing. Faced with such a large number of educational data, the use of cloud technology will make education management data processing more efficient. From a theoretical perspective, in terms of big data processors, cloud technology data processing is extremely fast and flexible, and can also cope with dynamic and complex education management big data, thus reducing education decision time and reducing to a certain extent. Education management costs.

Fourth, low-density value. In the education management process, big data technology can record information such as raw data involved in it in real time. In terms of educational management behavior, not all data has management value, and only a small part of it will be managed. The key to data processing is the value screening of massive data. Therefore, it can be applied to education management to carry out in-depth mining and information processing of education management big data.

3. Challenges in Education Management in the Era of Big Data

3.1 Education Information Management is Relatively Lagging Behind

Based on the information data platform, education management can be carried out smoothly and stably. However, as far as the current situation is concerned, education information management presents a relatively lagging trend. The specific performance is mainly in two aspects, namely, infrastructure construction and information platform soft environment construction. Among them, in terms of infrastructure construction, when dealing with the challenges brought by big data, most colleges and universities are not fully prepared, the education management information platform is not perfect, the data is updated slowly, and the data processing is scattered and the overall lack. Even some colleges and universities have not built an education information management platform; for the soft environment construction of information platforms, specifically, there is a lag in the construction of big data application talents and reserves. In the era of big data, deep exploration of big data requires strong support from professional talents. However, in the education management of colleges and universities in China, there is still a lag in the cultivation of such talents, which seriously hinders the construction of education management information.

3.2 Data Research Acquisition Method is Single

Education management needs to improve efficiency. Data research and acquisition are essential and indispensable. However, the current education management data research is relatively limited. The data collection and statistics work is the responsibility of the higher-level administrative unit of the university. This kind of data research and acquisition method is relatively simple, and the overall and systemic are relatively lacking. At the same time, compared with the third-party research methods, the data evaluation under this mode has weak credibility and lack of objectivity. In actual education management, colleges and universities are actually management subjects. However, they have not adapted to the development process of big data. When conducting data research and acquisition, they are not motivated, have insufficient mobility, and the data collected are scattered and lack effective data. Integration approach.

3.3 Insufficient Data Mining in Education Management

To be effective in the application of big data technology, data mining is extremely important and essential. In education management, after data collection, the data should be further explored, and based on the results of data analysis, to optimize education management and education. Therefore, in the teaching of teachers, data mining is of great significance. Based on the results of data mining, teachers can better grasp the personality characteristics of students and the dynamic changes of learning. Data mining should be based on the reality of education management, so that the problems reflected are more realistic and valuable, and the results obtained are more objective and persuasive, and to a large extent, can provide a strong data basis. , providing scientific guidance for education management and decision-making. However, from the actual application of data mining, big data

professional talents are scarce. At the same time, in terms of data processing, algorithm design and data model construction are not mature, which leads to education management in practical education management. Data mining stays on the surface and fails to penetrate, which is not conducive to education management and educational decision-making.

4. Optimization Strategy of Education Management Mode in the Era of Big Data

4.1 Renovation and Upgrade of Existing Data Platforms

To realize the optimization of education management mode, it should be based on the development needs of the big data era, and effectively combine with the actual situation of colleges and universities, implement transformation and upgrade of existing data platforms, in addition to strengthen the top-level design of the platform, we must also create diversified ways. To strengthen the construction of education management data platform. On the one hand, colleges and universities should rely on existing data platforms to integrate scattered data information resources, develop more practical and easy-to-operate data systems, and effectively embed them into existing data platforms. Ensure the openness of the platform, so as to facilitate the later update and maintenance of the system platform, and ensure the long-term operation of the education management data platform; on the other hand, universities can cooperate with big data development related enterprises to carry out school-enterprise cooperation, and the two research and development together, give full play to college education Advantages of information and scientific research, as well as the advantages of advanced technology research and development, complement each other's strengths, build an education management data platform system, and organize the implementation of operational management and core technologies, and improve the integration of big data system platforms in education management. Improve application effectiveness.

4.2 Optimize Data Acquisition Methods

In order to effectively cope with the challenges brought by big data, the key point is to optimize the data research and acquisition methods in the education management process, so as to improve the scientific and effective data management and use. The data survey work of colleges and universities should be in-depth, and must be in place. In terms of research priorities, data surveys are different. University education management data is more inclined to institutional investigations, organizational surveys, and educational policy research. For comprehensive research, we can learn from the successful experience of Japan's "University IR Alliance", which uses data research work to optimize the education management model. In addition, universities also make effective use of the different types of data collected. Because the data collected by the same data survey will be different for different respondents, analyze and contrast these different types of data, find out the shortcomings, and explore their own characteristics to improve and optimize.

4.3 Improve the Literacy of the Faculty

The key to big data application and management to be effective is the teacher. Therefore, improving the data literacy of the teaching staff is of great significance to the optimization of the education management model. In the era of big data, it is necessary to improve the data literacy of the faculty, and it is possible to focus on these two groups of objects for teaching, research-oriented special teachers, and big data research-based technical talents. As far as the former is concerned, universities should strengthen guidance and help them establish big data concepts and operational awareness, and continuously improve big data literacy. In actual education management, special teachers should pay attention to the application of big data in the process of teaching evaluation, and make full use of data feedback information to improve education management. For the latter, universities should speed up the training of such talents, focusing on To train talents who can conduct in-depth exploration of education management data, and adopt international cooperation and exchange, visits, overseas study, and visits to transfer big data research-type technical talents to countries with better big data applications for further study. The cultivation of big data

application-oriented technical talents in colleges and universities.

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