Reform and Practice of Big Data Driven Higher Education Management and Decision

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Abstract: The current period is the period of big data, and the management and decision-making of higher education cannot be separated from the driving of big data. How to better apply big data for the management and decision-making of higher education is a problem that needs to be solved urgently. As an important node in the education system, the field of higher education has naturally become an important area for the use of big data technology. This paper analyzes how big data is effective in higher education from multiple perspectives, and proposes a strategy for higher education development in the context of big data.

1. Introduction
Higher education is the high-level of China's education system. It is the most closely connected with social needs. It is an important base for scientific and technological innovation in China and an important region for cultivating high-quality talents in China. The integration of big data technology in this field can add help to the reform of higher education, which makes the quality of many aspects of higher education change, thus leading China's higher education to develop in a higher quality direction. It can be seen that the application of big data in the field of higher education is the trend of the times and is in line with the sustainable development strategy of higher education in China.

2. Analysis of the application of big data in the field of higher education
2.1 The application of big data in the management of higher education
The value of big data technology in information management is huge. More and more colleges and universities are aware of such problems, and they have begun to actively promote the construction of education management information, thus guiding the continuous transformation of information system construction concepts. Each university will combine the basic situation of existing resource integration, establish a personalized development strategy, and integrate information resources into the central platform of the system platform, thereby guiding the development of the data system construction plan in a more rational direction, which further perfects the later system. It laid a solid technical foundation and formed a sharp contrast and polarization, as shown in Figure 1 below:
Figure 1: Comparison of big data driven and traditional higher education management from 2016 to 2017 (education output)

From the above Figure 1, we can see that the above dark lines are the value of higher education driven by big data, and the light lines below are the values of ordinary traditional higher education. Judging from the current use of material resources in colleges and universities, the continuous integration of big data technology will enable institutions to increase their investment in data systems, thus laying a good foundation for the compilation of data resources, and the optimization of data resources has also entered. In addition, the continuous integration of big data in the management of higher education is still urging the creation of a professional faculty team for data chemistry.

2.2 The application of big data in the governance of higher education departments
Realizing the modernization of higher education faculty is an important node in the current strategic transformation of higher education, and in this respect, big data technology can effectively exert its own effectiveness. In detail, the centralized feedback is as follows: First, big data technology can promote the reshaping of faculty relations. Figure 2 below shows the indispensable structure of big data driving:
As shown in Figure 2, big data technology obtains full sample data, which will form an overall judgment on the whole picture of things, fully reflecting the global thinking and strategic thinking. At this time, university leaders can reduce the control of things at the micro level, focusing on Macro-school management, big data technology can give leaders better insight and control, which is the key to the handling of modern faculty relations.

2.3 The application of big data in the construction of college teachers
First of all, big data technology can make us more comprehensive understanding of the current university teacher structure. In the process of comparison with other higher education institutions, and control, this is the big data technology in the positive performance of the teaching staff in colleges and universities. As shown in Figure 3 below:

![Figure 3: Trends in the development of graduates from 2016 to 2018](image-url)
As shown in Figure 3 above, from 2016 to 2018, the proportion of students employed gradually increased, big data technology can form a comprehensive understanding of the current management status of college teachers, whether it is the current recruitment mechanism of teachers in higher education institutions, human resource management system, or performance appraisal system. It is the title upgrade system, which can be incorporated into the actual big data evaluation mechanism. Therefore, the defects and deficiencies in the corresponding system construction can be found, so that the leadership can quickly find the system defects in the human resource management. Finally, big data technology can help teachers better understand the defects and shortcomings of their own educational and teaching behaviors, especially to guide them to recognize the drawbacks of traditional teaching, and then provide opportunities for the innovation of teachers' teaching and teaching models, which makes many novel teaching ideas.

3. The application strategy of big data in the field of higher education
The application of big data in the field of higher education is not a one-off event. It requires us to correctly understand the value of big data in higher education and then use it in all aspects of higher education. In this regard, we should pay attention to the following aspects: First, increase investment in related fields in the field of higher education based on big data technology, so that big data technology can effectively become the backbone of the development of higher education, and establish correct big data. Values actively encourage in-service educators or managers to use them in their own jobs, as shown in Table 4 below:

![Figure 4: The effectiveness of current big data in higher education](image)

In addition to the above Table 4, focus on the establishment of higher education application standards and norms based on big data technology, combined with the current case of big data applied to higher education, establish corresponding application standards, so that when applying high data in higher education It can realize the management and control of its own behavior, and drive the development and progress of higher education in the direction of informationization. Finally, it is necessary to pay attention to the training of big data professionals in the higher education system. In addition to adopting the introduction strategy, it is necessary to adopt training.

4. Conclusions
The application of big data in the field of higher education is an inevitable trend in the future development of higher education, which is crucial for the sustainable development of higher education. Recognizing this, we should actively implement the creation of a good big data application environment from the aspects of system construction, environmental construction, and human resource management, so that higher education can realize its own reform and realize itself by means of big
data technology. It is believed that with the continuous accumulation of practical experience in this aspect, the application of higher education big data application standards will continue to develop in a more ideal direction.

References
[1] Lang H, Chao W, Bing W, et al. Big-data-driven safety decision-making: A conceptual framework and its influencing factors[J]. Safety Science, 2018, 109:46-56.
[2] Tang G, Sun H, Zhang G, et al. Research Report on the Development of Liaoning Higher Education and Vocational Education in Promoting the Revitalization[J]. Modern Education Management, 2018, 9(3):44-51.
[3] Willoughby J. Educational Reform, Privatization, and the Challenge of Collaborative Governance in Higher Education in the Arab World[J]. 2018.