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The Practice Study of Big Data Technology in the Construction of Higher Vocational Logistics Informationization



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Abstract: With the continuous development of science and technology, more new technologies are widely used in production and life, and big data has changed people's production and life style. Based on the 21st century information era, big data has long played an important role in the construction of logistics informatization in higher education institutions, and has become one of the important means to support the optimization and innovation of education and development transformation in the 21st century. Compared with traditional data technology, big data technology can be called at any time and anywhere using the Internet system to calculate data, and the advantages of fast processing, large data volume and low value density can better improve the quality and efficiency of logistics work management in higher education institutions. This paper analyzes and discusses the practical research of big data technology in the construction of informationization in the later stage of higher education, and hopes that it can give suggestions and inspiration to the majority of relevant workers.

Keywords: big data technology; higher vocational logistics; informatization construction; practical research

1. Introduction

The logistics management of higher vocational institutions involves a wide range of work, including the work, study, life and communication of teachers and students on campus, and the scope of work is very trivial, but its role is irreplaceable. Based on the new era, how to improve the efficiency and level of logistics work in higher vocational institutions, effectively reduce the operating cost of logistics work and improve the service satisfaction of logistics work has become one of the urgent problems to be solved at this stage of logistics work in higher vocational institutions. The development of information technology has broadened new channels for the optimization and innovation of logistics work in higher vocational colleges and universities, and the digital transformation of logistics work by means of information technology has become a necessary path for the transformation of logistics work in higher

vocational colleges and universities at this stage. The vice president of Alibaba mentioned in his speech from informationization to digitalization that digitalization is a transformation from business data to data business. Therefore, the logistics work of higher education institutions is not limited to developing a software or sound a business system, but to transfer the overall process of logistics work from offline to online, so as to realize the transformation of digital assets in all-round and global area, analyze, integrate and transform the business through big data, and promote the reorganization of informationization of logistics work in higher education institutions.

2. Overview of big data technology in the informatization construction of higher vocational logistics

In a broad sense, big data is among people's production and life with its own characteristics of large capacity, rich and diverse types, fast and high

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application value, and it has become a new way for people to cognize the world and feel the world at this stage, because the sources of big data are diverse and extensive, so it is necessary to do further analysis and processing of its related processes to obtain usable values from them. From it, usable values are obtained and presented to various users of big data in an appropriate way to meet the different needs of different users. In a narrow sense, the processing of big data includes data analysis, collection, sampling, integration, interpretation and other kinds of links. As for the later work of higher education institutions, it is very complicated and contains a wide range, including many link processes such as school catering and accommodation, medical and health care, daily study, basic maintenance, cleaning, greening, security and asset procurement. Therefore, the information systems related to the logistics work of higher education institutions are very diverse in origin and complex in type. When dealing with these data resources, the first thing is to sample and integrate them according to the sources of different data to ensure the organic unity of data resources' solidity and attributes (Li, 2021). On this basis, the related data are reanalyzed and stored on top of the public data platform to realize the information management of logistics work (Wang, 2020). In addition, logistics work does not necessarily have information systems as technical support, because some data sources mostly come from the table analysis of logistics staff, and the sources of different data according to different operations cannot maintain absolute consistency, so in the process of data sampling and integration, the original data should be classified and processed, and the purpose is to ensure the quality and credibility of the data (Wang, 2020). The common methods of data sampling and integration are data analysis method, data truncation method and engine search method. For the engine search method is one of the most common and widespread methods.

Big data analysis, as the key aspect and the core aspect of logistic data management in higher education institutions, is to effectively analyze and

integrate the data applied to it. Then for the source of logistics data, it also mostly comes from among the above mentioned business processes, that is, staff in statistical reports, and data collection by devices like access control, water meters, electricity meters, etc (Liang, 2020). Therefore, before analyzing the data, some distorted, irrelevant and invalid data should be cleaned up in time to avoid distortion of the final data analysis results. In addition, logistics data work has the characteristics of timeliness, such as access control, water meter, electricity meter and other data, so the processing of these data should have timeliness and accuracy, which can be calculated by the data framework, and can also be extended and expanded according to the statistical scope. For the results of big data analysis, it does not necessarily have a short-term practical role or practical significance for users, but for business needs, it is the analysis of the entire data presentation. For the analysis of data with a small amount of data, the traditional text form can be used to describe it. For example, cost expenditures, but for some relatively more complex information, it is necessary to analyze and reorganize it by means of visualization techniques (Miao, 2020). This is done in order to make the results of the data analysis more acceptable to the user on the one hand, and more visual and systematic on the other. PPT, tables or motion pictures can be used to show the users visually, thus reducing the time for thinking or research, so that the management staff can make better and more direct decisions. Finally, for the logistics staff in higher education institutions, 2/3 of them are still weak in understanding computer knowledge. Then, through visual data management and data analysis, effective data can be extracted from a large amount of data information, and this process can be simplified, so that logistics staff can extract valuable data for decision making among complex data.

3. Application of big data analysis in logistics work

3.1 Realize the information assessment of the staff at the later stage

The important mission of logistics management is that logistics management can improve the quality and level of education and teaching, which is an important guarantee for the teaching level and quality of teaching. In addition, the service quality and service level of logistics management work also affects the reputation as well as the image of the school (Ma, 2020). Therefore, it is necessary to improve the basic and comprehensive quality of the staff, starting from the staff within the logistics. The first category is mainly to assess the quality of their work, such as teachers and students in the process of maintenance, directly reported to the logistics staff can be, after the end of maintenance, the staff's work attitude and work content to score. The second type is the more traditional questionnaire survey, for example, students can get the questionnaire through video conferencing or scanning the QR code in the area, the survey of the area's health, equipment, service and attitude and so on the questionnaire child survey feedback. The third one is open evaluation, students can leave messages through the WeChat public number or the school's official website, private letter comments and so on, using data for screening and integration to assess the quality and level of work of logistics staff, and of course, public opinion processing, for the whole logistics management department, not for an individual (Liu, 2020).

3.2 Food safety

For food safety on campus, it is the key content of logistics management in higher education institutions. The canteens of higher education institutions should not only strictly control the food safety of meals and drinks, but also do the work such as screening in terms of diverse meal tastes (Huang, 2020). Then, schools can build an information feedback platform for school catering services through information technology, on the one hand, to ensure the quality of school catering raw materials and purchase process, etc., in strict accordance with the relevant regulations of food safety. On the other hand, it can also be reviewed through Internet technology, taking each cafeteria meal mouthpiece as a unit, and making relevant informational

presentations on the characteristics of its dishes, and then school teachers and students can be asked to evaluate the dishes, which can be done through a comprehensive evaluation of various aspects such as color, aroma, and taste. Of course, students are not required to finish the evaluation, they can exchange the evaluation for points or dining vouchers. In order to mobilize the enthusiasm and initiative of teachers and students to participate. By analyzing and integrating the evaluation data of the diners, we should encourage and reward the catering types with high satisfaction, and adjust the ones with relatively poor reputation in time to meet the different needs of different teachers and students.

3.3 Maintenance management

For the school logistics management in the maintenance of work as large as houses and roads, small to tables, chairs and benches, etc., are involved in the scope of logistics management. Generally speaking, there are two kinds of maintenance work, one is preventive maintenance work, and the other is to repair or repair things that have been damaged. For preventive maintenance work, such as the regular analysis of buildings to ensure the safety and stability of school dormitories or infrastructure, these can be done through information technology to manage the planning and expenditure of preventive maintenance, etc. The purpose is to facilitate inspections and data analysis. Another type is the sudden events, such as the higher vocational stage students still belong to the more active time, there is damage to desks and chairs or natural disasters and other improper operations caused by the damage to the items, we have to carry out maintenance treatment. Then the logistics maintenance staff should make a good record of the maintenance, and to note in detail the reasons for damage to equipment and maintenance process. For some aging equipment, information technology can be used to analyze the cause of attribution, in order to play the purpose of preventive maintenance. For some man-made damage, it is necessary to treat the situation as appropriate. In fact, for the damage caused by human nature, it can be reported to the relevant departments through the network platform

for processing, then if there will still be recurring situations like this, it should be fed back to the teachers so that they can persuade and educate them. In addition, for all kinds of equipment quality, age, use and so on can be made through information technology, information technology, automation, more improve the quality and efficiency of maintenance work.

3.4 Resource management

For many institutions of higher education, there are a lot of infrastructure and equipment for practical training and experiments, so it involves the daily maintenance and repair of these equipment, etc. With the passage of time, the consumption of such resources is relatively large, so to ensure the energy saving of such resources is also an important work content of the logistic management of institutions of higher education, so through information data processing to carry out data statistics and analysis of such energy resources. For example, we strengthen the monitoring of sensors for electricity and water consumption equipment, and build an information-based resource management platform to realize the remote supervision of such resources. In addition, in the collection of a large number of basic equipment, it is also necessary to combine the actual situation of the school and the feedback of students and teachers to carry out multi-dimensional data processing.

4. Conclusion

To sum up, for higher education institutions, they not only undertake the important task of education reform, but also the important mission of cultivating socialist successors. Therefore, although the logistics management work is not as the key work of teaching, the quality and level of logistics management work affects the development of education and teaching work, so the information construction of logistics management work is promoted to ensure the effective implementation of various aspects of school production, life, safety and education. Building Internet technology and

information means such as artificial intelligence and big data promote the optimization and innovation of logistics management work, realize the information management level of energy security, maintenance work management, food and beverage quality supervision and logistics staff assessment, and improve the quality of human education in higher education institutions has an important role.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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