Research on the Construction of Comprehensive Practice Platform for Big Data Analysis of E-commerce under the Environment of Internet of Things

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Abstract. Due to the rapid development and wide application of Internet information technology, there is an urgent need for e-commerce talents in various industries. Internship is an important part of on-the-job training in universities, which helps to provide outstanding talents for the society, and internship management system can ensure the quality of internship. Under the Internet of Things environment, a new comprehensive practice platform for big data analysis is constructed, and high-quality e-commerce talents in society are trained on the basis of overall research, so as to give full play to their roles and functions. Practice has proved that the comprehensive practice platform of e-commerce big data analysis can improve the quality of education and students' ability.

1.Introduction
The development of Internet promotes the development of electronic commerce. Different from traditional commerce, O2O e-commerce has convenience, security, interactivity and a new marketing model. With the introduction of the new term "Internet+", the e-commerce industry, which integrates modern technologies such as network and multimedia technologies, has broad development prospects in today's social production and life [1]. However, in recent years, e-commerce graduates of universities are facing relatively difficult professional pressure, and employers involved are also facing recruitment pressure. Talent training is inseparable from practice. Internship is a process in which students learn new knowledge from the past. It can also help the society to ensure that the direction of personnel training is correct, and the level of personnel training is the standard level [2]. The establishment of e-commerce platform should realize the foundation of big data precision marketing and promote the development of e-commerce under precision marketing.

Big data actually enriches the world of Internet of Things. Nowadays, using big data requires a lot of work, and users of big data services are confused and surrounded by a large amount of data. Commercial websites should make full use of the latest and more accurate information technology. Provide active, humanized, personalized, systematic and professional services to service users in a timely and wise manner. Therefore, this paper puts forward a comprehensive construction scheme of big data analysis comprehensive practice platform, which is used for e-commerce data collection, data storage, data cleaning, data analysis and mining, and big data analysis based on data visualization and e-commerce data analysis talents.
2. Development Characteristics of E-commerce in the Age of Internet of Things

2.1 Main aspects of platform.
In the Internet of Things era, the main body of the network environment has changed from the people-oriented era in the Internet era to the people-oriented era in the mobile Internet era, further forming three main components: people and people, people and things, and things and things. In order to realize a new business operation mode, allowing consumers to carry out convenient online shopping, online transactions, online electronic payment among members and related comprehensive service activities, various electronic businesses are being carried out through electronic platforms [3]. Big data technology can realize various data collection and mining, and the characteristics of big data are reflected in a large amount of data and a large amount of potential information. The data content reflects the commercial value, so it has high practical value. At the same time, the technical maintenance of enterprises is transferred to the cloud for unified management, so as to improve service efficiency and change the traditional enterprise structure, so that enterprises can experience better storage and large-capacity information computing services at a lower cost.

2.2 Data flow aspect.
Now, the world has completely entered the Internet era, and the new era of big data has promoted the popularization of "Internet+". In the massive interactive information, the e-commerce industry has also developed rapidly. These requirements bring more usage scenarios and greater usage weights to cloud computing and other Internet of Things technologies. Because precise marketing is based on data mining, the customer orientation is more accurate, which can guarantee proper marketing methods, and the marketing effect can be more obvious. Cloud computing and big data are parallel distributed computing logic, so the composition of e-commerce cloud platform cannot be separated from the combination of big data and cloud technology [4].

Importing data is the first step to deal with big data problems, and in the process of importing data, it is necessary to decide how to intervene based on two aspects: processing speed and data collection. The most effective use. At the same time, in the era of big data, data is no longer a simple recording function or a complex number, but has great economic and social value. E-commerce transforms the original complex and time-consuming business transactions into convenient and diversified ways, and keeps pace with the times, including the global procurement of raw materials and the development, promotion and sales of various products. Greatly liberated human labor, algorithms and data representing human beings become more and more important, and the requirements of related data interface standards and data general framework are getting higher and higher.

2.3 In terms of application scenarios.
An important feature that distinguishes big data analysis from conventional data analysis is the real-time nature of analysis and processing, which requires real-time analysis of the generated data at any time to obtain necessary information and apply it in real time. This requires technology that can find more accurate and valuable data information in massive data. Using e-commerce platform to contact customers closely, enterprises and government have become important links in modern social business activities. The mobile network with fixed location and no restrictions on portable mobile terminals allows both suppliers and demanders to access the e-commerce platform at any time. The diversity of data sources, the rapid growth of data, the size of data, the timeliness of data values and the relevance of data all pose challenges to the current data processing capabilities and methods.

3. Necessity of Building a Comprehensive Practice Platform
Computer network skills and computer application skills are the basic ability requirements of enterprises for e-commerce talents. At the same time, the importance of computer technology education in college e-commerce professional education determines students' practical ability and professional application level to a certain extent [5]. Due to the lack of funds, equipment and other basic hardware investment,
the actual training time provided by most universities for this major cannot meet the actual training requirements. Doing a good job in managing graduation internships will not only broaden students' employment channels, but also master employers' employment standards and development trends, and understand the latest progress of Internet work that has a great impact on professional construction and work plans. Inspired and guided by the e-commerce vocational skills competition, different levels and categories of competitions are organized, and the cutting-edge technologies in the industry are linked through the competitions, so as to stimulate the educational enthusiasm of college students, promote students to fill vacancies and rapidly improve their skills.

Students lack understanding of the industrial distribution and employment prospects of Internet of Things technology. Because of the lack of relevant information about what can be done, the fields that can be applied and the fields that can be creatively applied, it is difficult to stimulate students' subjective initiative and teaching creativity. In this sense, the solid work of receiving comprehensive training in computer technology and network application skills reflects this demand [6]. Although the products are different, the demand side's choice reflects its strong personality, which emphasizes the product function and tends to use characteristics at the same time. In the era of Internet of Things, the transaction mode has changed from a single-layer model from person to person to a multi-layer model from person to person, from person to object and from object to object. Let college students majoring in e-commerce and professionals from social related industries gain professional knowledge and operational skills in real-world operations.

Conventional e-commerce data analysis is to collect data according to a predetermined target, while irrelevant data will be discarded. Big data analysis collects all kinds of data from enterprises, and the potential application of the collected and stored data is not limited to the initially set goals. E-commerce is the product of the new era created by social development. The ultimate goal is to provide consumers with a broader vision through more convenient trade activities and new era technology. The business model, business model and organizational structure of e-commerce platform must be reformed, which will lead to the transformation of traditional e-commerce in business planning, business execution and business evaluation.

4. Building a Comprehensive Practice Platform for E-commerce Big Data Analysis

4.1. Composition of comprehensive practice platform.

The systematic and comprehensive hands-on projects of e-commerce specialty all originate from the company's position positioning ability. Students who carry out experiments are limited to completing the experimental contents assigned by teachers in the laboratory classroom, and because they can't enjoy the laboratory and related services outside the classroom, the laboratory resources are not fully utilized. In terms of software, Hadoop is open source software in Apache community, while other Hadoop-based software can be used for free because it follows the rules of open source community. Prepare tests for each project before implementation, and divide the tests into three categories according to the initial stage: good, medium and poor. Its purpose is to encourage poor students to reach the standard, promote middle school students to develop into excellent students, and build professional quality. The platform consists of two parts, one is online transaction module, the other is simulated e-commerce transaction module. The overall structure is shown in Figure 1.
According to the existing experimental conditions, laboratory construction should further improve the experimental environment, innovate experimental methods and improve comprehensive experimental ability [7]. Also in this system, there is another type of database called non-relational database, which has two characteristics: distributed and open source, which are different from HBAs. In the latter case, the data is saved. Match the search on the service product search platform through the theme or keyword provided by the user, and recommend specific search results to the user. The combination of big data algorithm and integrated analysis technology with data access interface, data modeling tools, programming tools and general components completes the association classification of accurate information and value information, and constructs the final basic information template.

4.2. Functional analysis of application architecture requirements.
Data management and data storage are important tasks of the Internet of Things service platform. At the same time, the importance of applying distributed file system is an important task of file storage. The main reason for its importance is that the operating basis of the system is PC, which is common and can hide detailed defects. By analyzing the correlation between customer characteristics, product characteristics and personalized product recommendation, the cluster analysis of purchase information can be used to segment customers more accurately.

As shown in Figure 2, students first apply for experiments on the teacher-student interaction platform, and teachers control the data center to obtain data according to the application program. Students can conduct experiments in this module, while teachers can evaluate students' experimental results in time. This shows that teachers play a very important role in this platform, and teachers still need to play a leading role in education in order to improve the effectiveness of experimental education.
With the introduction of "Internet+", e-commerce has become the trend of the times. E-commerce industry itself needs to optimize people's daily life and do its own "preservation" work. Integrate e-commerce technical training into professional training plan and work plan. Provide courses for each technical project, understand relevant knowledge, clarify technical standards, and master key points of skills. The future service of e-commerce enterprises should not only face service products represented by text information such as audio, video and complex data with image characteristics, but also have their own data structure, which is also the development direction of big data in the future.

With the increase of information in the Internet era, the storage environment has changed greatly. In e-commerce environment, an efficient, reasonable and smooth logistics system can ensure the development of e-commerce, so learning and acquiring logistics business processes in e-commerce environment is an essential knowledge for e-commerce talents. Therefore, the e-commerce cloud platform must implement a clear and labeled data source architecture at the bottom of the architecture application data source. Successful experimental education should make full use of the advantages and characteristics of online education on the one hand, and combine them organically on the other hand, so as to maintain and enhance the characteristics and advantages of traditional education. In the practice of student courses, functions such as product display and product image processing can be used to cultivate students' entrepreneurial projects, entrepreneurial talents and entrepreneurial teams.

4.3. Function analysis of each module.

There are two main sources of data collection, including real-time collection and Internet data searcher. In this paper, Kafka distributed messaging system is used, which is mainly used to collect various logs from servers for real-time collection and record various activities of Web users or application users. This can not only make students experience B2C e-commerce mode, but also make students actually get certain rewards, and some students have higher enthusiasm. Students must log in on time and summarize their internship log. Because the geographic location information of GPS is summarized by big data, it can determine the address of student internship department and prevent students from cheating [8]. With this platform, we can carry out various comprehensive practical education activities, such as comprehensive design, comprehensive education, project education, graduation practice, graduation design and so on [9]. For dynamic Web pages, the web searcher tool written by JavaS-cript can be used to complete this task, and the organic combination of the two ensures the comprehensiveness of crawling information.

According to the comprehensive practice platform of e-commerce big data analysis, students operate online stores as sellers. The business process includes four steps: first, open a shop. Office space leasing, distribution center installation, capital requirement planning and operation cost management. Second, procurement. Do a good job in local, product and crowd positioning, procurement bidding and commodity storage. Third, promotion. Through a series of marketing methods such as bidding
promotion and off-site promotion, we get the most natural traffic, paid traffic and off-site traffic, and
guide buyers to shop for consumption. Fourth, operation. Through order processing, goods delivery,
payment funds, financial index analysis, etc., we adjust our strategy to generate maximum profit in time.
Specific training items and contents are listed in Table 1.

| Training content | Post | Knowledge | Skills |
|------------------|------|-----------|--------|
| Open decoration | Network editing | Collection and description of commodity information | Visual merchandising ability |
| Customer service | Network customer service | Design and production of business webpage | Marketing planning ability |
| Operation promotion | Operations manager | Mobile commerce | Data analysis ability |
|                  | promotion commissioner | Cross-border E-commerce |
|                  | store manager | Internet trade |
|                  | | Shop planning ability |
|                  | | E-commerce entrepreneurship |
|                  | | Entrepreneurial ability |

On the basis of obtaining precision and value information, through the data access interface, data
modeling tools, programming tools, big data algorithms and integrated analysis technology, combined
with general components, the correlation classification of precision information and value information
is completed. The final basic information template is configured, which can keep the good performance
of Hadoop, control data statistics and data analysis, and thus reserve a large amount of memory space.
Taking the data analysis of human resources training as an example, the training focus is not in place, the
training plan is not standardized, and the training assessment items are not perfect. With the increase of
data volume, the improvement of service demand and the rapid development of semantic Web, the form
of data organization will inevitably change. Distributed storage mechanism improves reading efficiency,
and multi-host reading is more efficient than single-system reading. HDFS can be applied to
conventional desktop computers, and dozens of student computers in the training room can support big
data clusters.

The establishment of e-commerce platform has established a communication platform for buyers and
consumers. Bidding and purchasing objectives become clearer, transactions are conducted according to
contracts, bidding and purchasing cycles are shortened, and a short marketing process is realized. The related contents are summarized into two processes: Map and Reduce, which can decompose and summarize related tasks on the technical level. At the same time, it simulates the management role of the certification authority, checks the credit of the applicant, and issues the corresponding credit certificate, which can be provided to other users for inquiry. On the one hand, the studio serves as the working space for the daily management of the practice base; on the other hand, it is also the main place for the daily work of the student entrepreneur team, such as online product operation, team management, activity planning and execution. The work is equipped with related office equipment, such as desks and chairs, printing and fax machines, telephones and negotiation tables. After registration, they are not restricted by virtual banking and virtual logistics, and are completely real trading platforms. In this way, the integrated platform can not only provide e-commerce practice training, but also change the trading environment of the campus flea market and provide a new trading platform for the campus flea market.
5. Summary

The emergence of e-commerce is the inevitable outcome of the development of the times. The introduction of new terms such as "Internet+" has led to the rapid development of this new trade industry. The development trend of e-commerce platform should be viewed from the perspective of the whole network development process, and from a higher perspective. Under the background of big data, universities have the ability to cope with new opportunities and challenges through a comprehensive graduation practice management system. College students expand and improve their e-commerce skills through independent practice, stimulate entrepreneurs' enthusiasm through technical competitions, provide feedback, fill vacancies through practical operations, pursue Excellence through club activities and establish entrepreneurial models. The construction of the platform also reflects the core needs of e-commerce companies as students-centered, improves comprehensive practical skills, and embodies the training goal of training comprehensive practical and applied talents.

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