Talent Training Model of Auditing under the Background of Artificial Intelligence

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Abstract. With the continuous development of computer technology and the comprehensive popularization of accounting information systems, more and more accounting and auditing work is being completed by increasingly mature artificial intelligence. The development of artificial intelligence will not only have a significant impact on practitioners in the auditing industry, but also have a revolutionary impact on the talent training of auditing in colleges and universities. This paper first introduces the impact of artificial intelligence on the auditing industry and higher education; then analyzes the problems faced by the talent training of auditing in the context of artificial intelligence; finally, it proposes reform suggestions for the training of auditing professionals.

Keywords: Artificial Intelligence, Auditing, Talent Training

1. The Impact of Artificial Intelligence on the Auditing Industry and Higher Education

1.1 Impact of artificial intelligence on the auditing industry

Artificial intelligence is an advanced technology that simulates the way humans think. The research area of artificial intelligence technology is very extensive, including expert systems, neural networks, heuristic algorithms, fuzzy logic, genetic algorithms, and so on. At present, neural network, fuzzy logic, and various extended algorithms of genetic algorithms are widely used, such as deep learning of neural network extension. [1] With the application of artificial intelligence technology in the field of accounting and auditing, those tasks that are highly repetitive and logical in the auditing process are directly processed by artificial intelligence. Judging from the results, the cost and efficiency of artificial intelligence is greater than the work of auditors. There is no doubt that under this technological trend, a large number of junior accountants and auditors will face huge employment problems. [2] In the accounting firm industry, four world-renowned accounting firms have launched their own financial robots. For example, Deloitte's financial robots can quickly complete business process combing, testing and verification. With the help of financial robots, the accounting firm has greatly improved the processing efficiency of business processes such as bank reconciliation, end-of-month payment reminders, reminders of difference in purchases and sales, and verification of VAT invoices. [3]
1.2 Impact of artificial intelligence on higher education
As artificial intelligence technology is gradually recognized and valued by society, artificial intelligence has also had a significant impact on the curriculum system of higher education. In order to conform to the trend of the times, in March 2019, the Ministry of Education issued the “Notice of the Ministry of Education on the Announcement of the Recording and Examination and Approval Results of Undergraduate Programs of General Colleges and Universities in 2018”. According to the notice, a total of 35 colleges and universities across the country won the first batch of artificial intelligence majors, qualifications [4]. According to the public information of universities, the main course system of artificial intelligence roughly includes basic courses, core professional courses, cross-composite courses, and practical courses. Some courses are shown in Table 1. In addition to specializing in artificial intelligence majors, some universities have also introduced some aspects of artificial intelligence to other majors through embedded teaching reforms to improve students' perception and adaptability to the intelligent age. [5]

Table 1 Some courses of artificial intelligence course system

| Discipline-based courses                                      | Core professional courses                               | Cross-composite courses                                 | Practical courses                                      |
|---------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Linear algebra, probability theory, mathematical logic, etc.  | Machine learning, natural language processing, computer vision, etc. | Computational finance, computational biology, artificial intelligence ethics, etc. | System development and application, corporate training, etc. |

2. Problems Facing the Training of Auditing Talents under the Background of Artificial Intelligence

2.1 The training plan and curriculum system lags behind market changes
The existing training programs and curriculum system for auditing professionals are relatively traditional and have not changed much for many years. Most of the content that students want to study is traditional accounting and auditing courses. Practical courses such as accounting and auditing simulation experiments are rare achievements in teaching reform in recent years. In the era of artificial intelligence, the existing auditing talent training programs and curriculum systems are facing a potential crisis that derailed future social needs. Specifically, artificial intelligence technology has developed rapidly and knowledge has been updated rapidly. [6] The existing teaching system is too old, and the content of knowledge is updated slowly. This situation does not match the trend of the times.

2.2 Teaching resources and teaching models need to be updated
Under the current curriculum system, the analysis data analysis ability and practical operation ability of auditing majors generally cannot meet the requirements of the era of artificial intelligence. Professional talents cannot be developed without the support of school software and hardware. The teaching of artificial intelligence audits relies heavily on the support of infrastructure inside and outside the school. Artificial intelligence is currently a relatively advanced computer technology. The manufacturing and operating costs of intelligent machines are high, especially for the later-stage maintenance that requires a high level of technical staff. The establishment of artificial intelligence majors or the introduction of artificial intelligence-related practical courses in colleges and universities requires a large amount of funds to build supporting infrastructure to achieve talent training programs. In addition, the teaching mode of auditing major is more traditional, and new teaching modes need to be explored to improve the learning effect of students.
2.3 Teacher ability and knowledge need to be improved

Artificial intelligence audit can effectively improve the accuracy of audit information and avoid low-level errors to the greatest extent. At the same time, artificial intelligence audit can also greatly reduce the time of data collation, simple sampling, reconciliation processing and even audit work papers during the primary auditing process. The outstanding performance of artificial intelligence auditing can gradually replace the work of a large number of junior and even intermediate auditors. In the future, the work of auditors will mainly focus on professional judgment and ethics of abnormal data. The current college teachers are mainly from the background of traditional knowledge. In order to better cope with the impact of the intelligent era on higher education, the structure and knowledge level of college teachers need to be updated to adapt to the new market environment.

3. Countermeasures

3.1 Reform and optimization of talent training programs

First, schools should adjust and optimize the teaching system and curriculum content. The main course of the artificial intelligence auditing teaching system is divided into two parts, the theoretical system and the practical system, as shown in Table 2. On the one hand, relevant courses such as introduction to artificial intelligence, programming, big data analysis, and artificial intelligence auditing are added to the content of the original curriculum system to cultivate composite talents with multiple fields of knowledge such as auditing and artificial intelligence; on the other hand, some parts must be deleted. Non-core courses, through the operation of one increase and one decrease to minimize the burden on students. Secondly, the school should reform the graduation design assessment method. Due to the introduction of artificial intelligence-related courses, the difficulty of learning has increased significantly. At the same time, the requirements of artificial intelligence audits for graduates' practical application capabilities have also increased significantly. It is a bold and beneficial attempt to replace undergraduate thesis with complete technical results or full-time internship results. Finally, schools should improve the talent training program for auditing professionals in a timely manner, do a good job in positioning talents, and strive to improve the students' professional theoretical knowledge and practical operation ability to lay a solid foundation for the future.

| Theory system | Practice system |
|---------------|-----------------|
| Basic Accounting, Intermediate Financial Accounting, Principles and Practice of Auditing, Internal Audit, Social Audit, Introduction to Artificial Intelligence, etc. | Basic accounting simulation experiment, financial accounting comprehensive experiment, tax simulation experiment, audit simulation experiment, internal audit simulation experiment, artificial intelligence audit, etc. |

3.2 Improve teaching resources and reform teaching models

First of all, universities need to build and introduce artificial intelligence audit-related infrastructure to provide material security for auditing talent training and teaching reform. Secondly, colleges and universities can hire outside-school enterprise experts, well-known scholars and practitioners with rich practical experience to hold lectures, academic reports, and integrate artificial intelligence into thematic seminars, providing opportunities for learning and communication for teachers and students. [7] At the same time, the school can also enrich the off-campus practice platform [8], and incorporate new core courses related to artificial intelligence auditing into practice, so that students can more effectively improve learning results. Finally, teachers should explore online and offline mixed teaching models and change the traditional single teaching method. For example, students are encouraged to preview before class, participate in class and review after class, and strive to improve students' self-learning and thinking ability. [9]
3.3 Improve the construction of teachers
The level of the teaching staff determines the quality of talent training to a certain extent. First of all, auditing teachers in colleges and universities need to improve their self-learning ability, actively learn about artificial intelligence, financial robots and other related knowledge, and strive to integrate technical knowledge with traditional auditing knowledge in order to better achieve a win-win situation for teaching effects and personal value. Secondly, universities can quickly optimize the structure of the auditing professional teacher structure by introducing teachers with a computer professional background, and build a composite teacher team [10-11]. Finally, universities should strengthen the practical ability of teaching teams. Teachers often have solid theory and insufficient practical ability. Artificial intelligence auditing not only requires teachers to teach students to master more traditional auditing theoretical knowledge, but also requires students to master practical application ability.

4. Conclusion
Artificial intelligence is quietly changing the future of the auditing industry. Auditing majors in universities should follow the development trend of artificial intelligence and actively accept the application of artificial intelligence in auditing. Under the background of artificial intelligence, auditing students must not only master a large amount of professional knowledge in accounting and auditing theory, but also support the role of artificial intelligence in auditing. In the future, an excellent auditing talent can make full use of the help of artificial intelligence auditing to get rid of complicated corporate financial information, so as to focus more on professional judgment.

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