

# Reflections on the Transformation of Accounting Professional Education in the Big Data Era

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**Abstract:** The advent of the big data era has wrought profound transformations upon the milieu of accounting, presenting traditional accounting disciplines with a significant challenge amidst this new context. This article, originating from the impact of big data on accounting practices, dissects the quandaries inherent in present-day Chinese university accounting education. It also propounds, against the backdrop of a new era, that university accounting academics must evolve in respects such as talent cultivation objectives, course architectures, pedagogical contents and methodologies, and faculty assembly.

**Keywords:** Big Data; Accounting Major; Talent Cultivation

## 1 Introduction

Data has become an important factor of production and a fundamental strategic resource for countries in the new era. Looking at foreign countries, as early as the 1960s, the United States began research and practice in accounting education, while China started research on accounting education in the early 1980s. In 2008, the term "Big Data" officially appeared, marking the arrival of the big data era. With technological advancements, big data has penetrated various fields such as business, healthcare, finance, and transportation, becoming a key driver for the development of these industries. Improving big data analytics capabilities allows enterprises to better manage their operations and further enhance performance. Additionally, the transparency of big data makes the acquisition of fair value more scientific and reliable, thereby increasing the overall reliability and scientific nature of financial accounting work and laying a solid foundation for further business development. In the era of big data, advanced technology can help accountants automate the processing of large amounts of repetitive work, thereby increasing efficiency and allowing them to focus more on solving complex problems and strategic planning. Financial personnel in enterprises are the "analysts" who directly deal with massive amounts of data, so all enterprises will undoubtedly respond to the demands of the times by increasing the demand for financial personnel with data analysis capabilities.

With the rapid development of information technology, the application of big data in accounting work is becoming increasingly widespread. The main elements of the accounting work environment include information resources, organizational structure, management systems, and socio-economic environment. In the era of big data, significant changes have taken place in the accounting work environment. Firstly, data sources have become diversified. With the development of information technology, accounting data sources have moved beyond traditional forms primarily based on paper and forms to diverse data formats such as electronic data and network information, including corporate financial reports, ERP systems, HR systems, etc., all of which have become sources of data in the accounting work environment. Secondly, there is diversification in information storage and processing methods. When collecting and organizing big data, enterprises no longer rely solely on traditional paper reports and paper accounting ledgers but have adopted a more diverse range of electronic spreadsheets, databases, and other data processing tools.

In recent years, Chinese universities have gradually attached importance to the cultivation of accounting professionals. With the advent of the big data era, more and more companies need big data talents, and the traditional accounting education model can no longer meet the demand for talents in the new situation. Therefore, universities need to carry out teaching reforms and transformations to cultivate versatile talents that meet the needs of the new era.

## 2 The advent of the big data era has brought about profound impacts on the accounting profession.

### 2.1 Improve data analysis capabilities

In the era of big data, accountants must develop a heightened sensitivity and aptitude for data analysis. They should also have a desire and ability to learn emerging technologies such as big data analytics, cloud computing, and artificial intelligence. Accountants need to possess robust analytical skills to extract valuable insights from the vast amount of data available. This requires them to not only have traditional accounting expertise but also proficiency in data mining and predictive analytics. With the continuous advancement of data processing and analysis tools, accountants must acquire relevant technical skills such as data visualization, real-time monitoring, and feedback mechanisms to adapt to the demands of their new profession.

### 2.2 Enhance strategic analysis expertise

Accountants play an increasingly pivotal role in enterprise decision-making. They are required to harness big data to provide management with a plethora of data results at various levels and perspectives, thereby furnishing their decisions with quantitative substance. The advent of big data has provided accountants with numerous opportunities for professional advancement. They can delve beyond the confines of traditional accounting and auditing into realms such as data analytics and financial advisory services, thereby delivering a broader suite of services to businesses. Data-driven technologies have empowered accountants to provide businesses with more comprehensive and

instantaneous data support, aiding enterprises in making more scientifically rational decisions. Accountants are no longer confined to the roles of record and report but have evolved into essential stakeholders in enterprise strategic decision-making.

### 2.3 Maintain a continuous state of learning

Technological rapidity demands that accounting professionals continually acquire new knowledge and skills to maintain their professional competitiveness. Firstly, one must acquire the fundamental knowledge relevant to this subject and master the competencies in data management, which include data collection, data cleansing, and data analysis. These competencies are paramount for the management and analysis of massive data. Furthermore, one must learn and master several common big data processing tools and software, such as Hadoop and Spark, which can assist accountants in efficiently managing and analyzing large-scale data. In daily practice, through the practical manipulation of real-life scenarios, one integrates theoretical knowledge with hands-on expertise, thereby augmenting the competency to tackle authentic challenges. With the advent of new technologies, accountants must continually refresh their intellectual framework, keeping pace with the steady advancements in technology.

## 3 The shortcomings of the traditional accounting education system

### 3.1 Knowledge update lagging

With the advent of the big data era, the traditional accounting education system often struggles to update course content in a timely manner, leading to a gap between the knowledge students learn and the actual requirements. Knowledge updating lag: With the advent of the big data era, the traditional accounting education system often struggles to update course content in a timely manner, leading to a gap between the knowledge students learn and the actual requirements.

### 3.2 Lack of innovative thinking

Traditional accounting education tends to be too conservative, lacking in cultivating students' innovative thinking, which leads to a lack of flexibility when facing complex and changing practical problems. Traditional accounting education focuses too much on the imparting of theoretical knowledge, neglecting the importance of practical skills, resulting in students finding it difficult to translate their knowledge into practical abilities in actual work. How to use new technologies like big data mining and apply them to practical operations has not yet found a solution.

### 3.3 Lack of interdisciplinary communication

The development of the accounting profession requires cross-disciplinary collaboration with other fields such as computer science, statistics, etc. However, traditional accounting education often remains within the boundaries of the discipline, lacking interdisciplinary communication and collaboration. Many accounting students are unfamiliar with emerging computer technologies, which puts them at a disadvantage in the competitive job market.

## 4 The impact of the big data era on higher education in accounting profession

### 4.1 Innovate professional settings and course content

Firstly, adjust the professional settings. While retaining the core knowledge of traditional accounting majors, consider adding professional directions related to big data analysis, such as "Accounting and Data Science" or "Financial Analysis and Big Data," to meet the market's demand for new accounting talents. The talent cultivation goal is the starting point and destination of talent cultivation. The accounting education in universities should be based on the new requirements for accountants in the era of big data, adjusting the talent cultivation goals for accounting majors. Traditionally, accountants focus more on the accounting and supervision of financial information in enterprises, while in the era of big data, enterprises need to pay more attention to the collection, organization, and analysis of internal and external data, especially non-financial data. Therefore, the talent cultivation goals for accounting majors in universities should include requirements for non-financial information analysis. Additionally, with the advent of the big data era, accounting education in universities should change the current situation of focusing only on theoretical and practical accounting teachings, and increase the cultivation of students' practical and innovative abilities to enhance their overall quality. Therefore, universities should align their accounting major curriculum system accordingly to make the talent cultivation goals more in line with the new requirements for accounting talents in the era of big data.

Secondly, update the course content. Traditional teaching content and methods can no longer meet the needs of new social development. In addition to traditional accounting courses, incorporate courses related to big data analysis, data mining, database management, statistics, etc., enabling students to master a full set of skills from data collection, processing to analysis. When designing the curriculum, introduce cutting-edge technologies such as cloud computing, artificial intelligence, allowing students to understand and master the application of these technologies in the field of accounting. Furthermore, practical teaching should be strengthened, allowing students to learn how to apply big data technology to solve real-world problems through case studies, experimental training, and other methods.

Thirdly, increase interdisciplinary collaboration and school-enterprise cooperation, encourage accounting majors to collaborate with other disciplines such as computer science, statistics, etc., to jointly develop new courses and cultivate students' comprehensive abilities. Universities should strengthen practical projects conducted in cooperation with enterprises to understand the demand for big data talents in the industry, enhancing the pertinence and practicality of teaching. Collaborate with enterprises to carry out internship and practical training projects, allowing students to understand the demand for big data talents in the industry through actual work, enhancing the pertinence and

practicality of learning.

#### 4.2 Re-examine the original teaching content and methods

The advent of new technologies will bring about fundamental shifts in the accounting industry. With the rapid advancement of information technology, big data is being extensively employed across various sectors, significantly augmenting the realm of social informational sharing and boosting the efficiency of societal endeavors. For the accounting industry, this signifies a profound transformation of traditional accounting elements and data processing methodologies. Accounting data is now situated apart from its physical storage, with the data form becoming increasingly diverse, no longer limited to numerical data but encompassing a variety of forms, including symbols, graphics, and videos. These shifts necessitate accountants to possess not only traditional accounting expertise but also the capability to manage and analyze large-scale data.

Furthermore, to confront such transformations, accounting education must adapt to new challenges and make corresponding changes at the opportune moment. Traditional accounting pedagogies are increasingly unable to cater to the needs of the new era. Collegiate institutions must contemplate the novel demands of the digital economy on accounting professions and explore innovative approaches to talent cultivation. This encompasses, but is not limited to, the integration of emerging technologies such as big data analytics, cloud computing, and artificial intelligence into educational practices, as well as the cultivation of students' data acumen and analytical capabilities.

#### 4.3 Update of the knowledge system of the teaching staff

Teachers need to continuously update their knowledge structure and master new technologies to adapt to the new requirements of teaching. Firstly, there should be a psychological shift where teachers actively embrace changes, update traditional teaching concepts, and focus on cultivating students' innovative thinking and practical abilities to meet the educational needs of the big data era. Secondly, teachers should continuously learn new technologies and be able to apply them proficiently in teaching and research work. In addition, they should have the ability to apply big data technology to solve practical problems, accumulate experience through practical operations, and improve the quality of teaching. Furthermore, teachers should actively participate in academic exchange activities, communicate with peers about the latest research results and teaching experiences, continuously broaden their horizons, and enhance their academic level. Lastly, it is important to focus on introducing high-quality talents with big data thinking and computer programming capabilities, increasing the number of personnel in the accounting professional teacher team in fields such as computer science and information technology; and secondly, to focus on cultivating the ability of existing accounting professional teachers to use new technological means such as big data technology for teaching activities. A combination of 'going out' and 'bringing in' can be adopted to build a team of teachers.

#### 4.4 Students actively learn new knowledge

For students majoring in accounting, the advent of the big data era represents both opportunities and challenges. They must concurrently acquire a comprehensive understanding of traditional accounting concepts, while concurrently actively broadening the boundaries of their skill set, learning how to harness big data for financial analysis, forecasting, and decision-making support. This not only affords them a competitive edge within their personal professional lifestyles but also injects new vitality into the evolution of the accounting sector.

## References:

- [1]Meng Xiaofeng, Cixiang. Big Data Management: Concepts, Technologies, and Challenges[J]. Journal of Computer Research and Development, 2013, 50(1): 146-169.
- [2]Li Yilan. Reflections on the construction of financial big data analysis courses in the digital economy era[J]. Investment and Entrepreneurship, 2021, 32(1):50-52.
- [3]Hao Xiaohong. Research on the impact of artificial intelligence on the demand for accounting talents in the era of big data [J]. Finance and Economics World, 2022(31):171-173.
- [4]Kang Qingqing. Analysis of the core ideas of promoting the upgrade of management accounting by transforming financial personnel. Investment and Entrepreneurship, 202132(22), 114-116.
- [5]Zhang Miaoling, Hu Linghua. A Brief Discussion on the Transformation of Accounting Talent Training under Intelligent Finance [J]. China Business Review, 2020(14): 195-196.