

# Transforming Accounting in the Age of Big Data

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## Abstract

Today, with the rapid development of information technology, human work and life are bound to be changed by the information age. In terms of operation, artificial intelligence, big data, cloud computing and other technologies have a great impact on business operations. From external development strategy to internal organization construction, from macro to micro, it is a mandatory course for enterprises to respond to the environment and make active changes in the era of big data. As the degree of informatization of China's enterprises increases, the business data of enterprises is also increasing. And the rise of intelligent finance allows enterprises to classify, organize, process, calculate and analyze financial data and business data, transforming historical data that could not be reused in the past into valuable information, which provides the basis for decision makers to formulate policies in the future. To this end, this project takes accounting change as a breakthrough, conducts in-depth research on the connotation and system architecture of intelligent finance, and on this basis, plans for the future development of intelligent finance through the three main paths of intelligent financial accounting, intelligent industry-finance integration, and intelligent management accounting, and in this way guides enterprise managers and financial personnel in their understanding of intelligent finance and on this basis, in the depth of the human-computer integration mode to realize the perfect transition of financial intelligence.

## Keywords

Big Data; Accounting Transition; Intelligent Finance.

## 1. Background

Today, as artificial intelligence technology continues to make breakthroughs, there is an urgent need for information management and big data applications in all sectors of the enterprise. Take finance for example, no matter the difficulty of accounting or the huge amount of data, enterprises need to apply modern information technology to achieve the transformation to intelligent finance through the development of process automation. Therefore, this thesis explores how the intelligent conversion of finance can be achieved in a big data environment, from both the micro and macro aspects of an organization.

Throughout the development of finance and accounting in China, it can be roughly divided into four periods. First, in the early period, purely manual finance. In this part, people completely rely on paper and reports to realize the financial records and processing of the company. Since 1979, the financial management of China's enterprises into the period of computerization, some of the repetitive manual accounting work by the accountants used by the small database and simple software to replace, in the payroll accounting, cost accounting, fixed asset accounting and other fragmented modules, and gradually realized by the computer-assisted accounting. At this time, the work of accounting personnel and the operation of financial software is still a big communication barriers, the two are not interlinked, the financial software can only complete the operation of some simple links, and for more complex information, you need to rely on the financial staff to complete. 1990s, along with the emergence of the ERP system, as well as the

development of the computer network, the company's financial management stepped into the era of information technology. Companies are increasingly using its data processing functions and network storage and transmission functions, thus initially integrating the business process and financial process of the enterprise. By 2005, a new model of financial shared services was introduced in China and gradually developed in depth. With the continuous expansion of artificial intelligence technology, human beings began to give it new capabilities, such as reasoning and analysis, risk identification, scenario simulation and so on. In the financial field, the new technology represented by "Big Intelligence, Cloud and Object Area" brings new opportunities and challenges to the accounting change, but also faces new challenges. Advanced algorithms and models have automated the whole process of financial management, breaking down the barriers of information exchange between the business process and the financial process, and opening up a new chapter for the intelligence of the company's finance.

## 2. Big Data Brings Benefits

Compared with financial computerization and financial informatization, the biggest advantage of smart finance is that it can work with expert systems and financial personnel to conduct rational analysis and intelligent identification, enabling financial personnel to better create value. Smart finance is a value-added link based on a financial shared service platform with management accounting at its core, constantly expanding the scope of research in the field of artificial intelligence. Intelligent finance is not just about "automating" one part of financial management, but about building an efficient, standardized financial process that provides improved information for strategic decision-making and assists managers in making the right decisions.

With the extensive use of emerging technologies such as the Internet of Things, Big Data and Artificial Intelligence, companies are able to use intelligent Big Data to gain a real-time understanding of the market and thus optimize their business processes to better meet customer needs. On this basis, new technological means are used to quickly meet the individual needs of customers and improve customer satisfaction. Nowadays, with the rapid development of information technology, human work and life will inevitably be changed by the information age. From the external development strategy to the internal organizational structure, from the macro to the micro, it is a compulsory course for enterprises to respond to the environment in the era of big data to make active changes. As the degree of informatization of China's enterprises increases, the business data of enterprises is also increasing. The rise of intelligent finance allows companies to classify, organize, process, calculate and analyze financial and business data, transforming historical data that previously could not be reused into useful information that can be used as a reference for decision makers in the future, thus achieving the transformation from quantity to quality.

In the case of the continuous development of the economy, the increasing demand for accounting professionals, in the current increasing number of college students, graduates are difficult to find a job, the employment situation of accounting professionals is also better than other professions, in the recruitment of jobs around the demand list, the demand for financial positions has always exceeded the demand, according to the survey data, the community has a strong demand for graduates of the computerized accounting profession, the long-term demand for financial personnel accounted for 90% of all units. According to the survey data, the society has a strong demand for graduates of accounting computerization, long-term demand for financial personnel accounted for 90% of all units, for domestic and even global institutions of higher learning of all kinds will be set up in the accounting discipline, because of all walks of life, large and small enterprises and institutions, all need accounting personnel. With the increasing number of accounting professionals in colleges and universities, businesses,

enterprises, the demand for their academic qualifications is also gradually increasing, the whole society for the demand for accounting graduates as well as the accounting positions that can be provided has also changed.

Financial Intelligence can connect various financial situations, perform meticulous and accurate calculations, and analyze them objectively through data. This enables innovative value-adding to be realized. Financial intelligence is not just about automating one part of financial management, but about creating an efficient, standardized financial process that provides a basis for improved strategic decision-making and assists managers in making the right decisions.

### 3. Responding to Trends and Positive Changes

With the passage of time, the students' curriculum and demand for the accounting profession have also changed, and the teaching norms and curriculum standards of the accounting profession in many schools are still stuck in the framework system of the 1990s, which makes it difficult to improve the learning efficiency of the students. This important work is to adjust the demand for accounting professionals, the setting of the accounting profession and the status quo of the training of talents, so as to better adapt to the actual needs of the society and the actual ability of the students, and finally cultivate a batch of accounting professionals who can satisfy the needs of the society as well as the actual ability of the students. Therefore, during this winter vacation, I collected information about small, medium and large enterprises, including banks, hotels, cafes and other industries, as well as their finance offices through online surveys, and obtained some valuable data by distributing questionnaires and other methods, and then analyzed and summarized these data.

In today's rapid development of technology, people are exposed to massive amounts of data, we are exposed to massive amounts of data every day, both data that has been used and newly generated data, and big data is data that has been used. Big data is a type of database that cannot be accessed, managed and processed by traditional database tools at the current level of technology. It has been found that there is a significant correlation between the number of times a user visits the Internet and the information it contains, i.e., as the amount of time a user spends visiting increases, the amount of information it contains also increases. The system is characterized by fast computing speed and no delay, which enables real-time processing.

Based on the Internet, cloud computing and other technologies, big data can process data more accurately, enhance the security of data and improve the utilization value of data. Big data is gradually penetrating into people's daily life. With the advent of 5G, people are increasingly feeling the convenience of technology. Most trade activities are conducted online, and people can also get the latest information online. The application of big data has greatly improved people's happiness index. Through big data technology, companies can analyze customer preferences and make profit planning accordingly to promote the company's development. Nowadays, the use of big data is becoming more and more widespread and can be considered as a new business model.

From the results of the survey, the current job situation of accounting graduates is still relatively optimistic. The easiest one is the small and medium-sized private enterprises, which is also the career chosen by many college students. However, they do not need specialists with financial management and analytical skills, but in today's rapid development of science and technology, there may be some high-tech products such as robots to replace this position. In addition, small and medium-sized private companies are not very good in terms of welfare and safety. The welfare of the same position in most foreign companies is much higher than that in domestic companies, and the main reason is that the financial management system and way of foreign companies are more mature, and for new employees, they usually have to go through a

period of professional training. The division of labor is finely divided, so that each person in his position, can only learn a certain area of knowledge, which greatly improves the efficiency of accounting. Although this skill is specialized, it is detrimental to the overall career development process, this is due to the difficulty of acquiring comprehensive financial management, analysis and other experience. The opportunity to continue further education is also another reason why foreign companies are attractive. They would rather go to PwC, KPMG, Deloitte, Ernst & Young, China 8, Baker Tilly International, Tianjian, Lixin, Zhongrui Yuehua, Xinyong Zhonghe, Daxin, Zhitong, Dahua. There are both benefits and opportunities for exercise. It is conceivable that the current market demand for personal financial adviser positions is gradually expanding, at the same time, with more and more investment channels in society and the reform of the insurance system, financial advisers will certainly enter more and more urban white-collar. The growth in demand for this category of talent should be the social investment of financial consultants. Nowadays, most of the college students, most of the energy is put on the examination and test, the examination is of course to find a better school to continue learning, and the test, now there are a total of three levels of accounting certificate in the country. The first stage is the professional qualification test for accountants; the second aspect is the professional certification of accounting; the third aspect is the CPA exam. There is no doubt that accounting is a very popular industry, but likewise, the general, junior financial talents, is far more than the demand, and the senior financial talents, is even more rare. With the continuous improvement of the economic information system and control system of enterprises, more and more companies are putting forward new requirements for their practitioners. Therefore, improving the gold content of accounting professionals can add a point to the odds of finding a good job in the future. In addition, there is a growing demand for international accounting professionals, such as United States CPA (USCPA), Management Accountant CMA (CMA), United Kingdom CPA (ACCA), CFA, etc. In a nutshell, the emergence of accounting is in response to the growing economic transactions, the expansion of business, the need for governmental regulation, and the protection of investors. It provides a strong basis for decision making in economic behavior and improves the transparency of corporate information. This makes accounting indispensable in today's world.

First of all, based on financial information technology, an intelligent accounting and accounting platform has been constructed. Using software programs, artificial intelligence, and formula models, it allows financial personnel to simplify tedious work and save a lot of time on basic accounting work, and seeks to develop towards the automation of the whole process of robotic processes. Through the application of the software, the accounting personnel can independently carry out the account processing according to the needs of the enterprise; the use of artificial intelligence technology, to achieve the automatic auditing and verification of tickets; the establishment of mathematical models, to achieve the automation of accounting; the use of the software, to achieve the vouchers, the automatic generation of reports; the use of this software, to achieve a variety of reports automatically generated and filled out. Intelligent accounting system is a kind of innovation to the traditional accounting method, which greatly reduces the workload of accounting personnel. At the same time, the system also has the following advantages: firstly, it completely transfers the tedious calculation tasks to machines; secondly, it can be personalized for the different needs of enterprises to achieve customer customization; thirdly, it is highly scalable. In addition, the system also has the following advantages: firstly, it can effectively solve the errors due to human factors in the traditional accounting methods; secondly, it can improve the accuracy of information. In addition, the system has the following advantages: firstly, it can reduce the cost of the enterprise; secondly, it increases the profit of the company; thirdly, it can improve the competitiveness of the enterprise.

Secondly, the financial platform of intelligence management is based on the work content of management accounting. It is based on the calculation of financial data, using the process of variance analysis, cost analysis and other processes to achieve the control of costs, but also to simplify the caliber of funds, as a way to improve the company's profits. The work related to management accounting includes: firstly, analyzing the business data of the company; secondly, mining management accounting information; thirdly, using modern information technology to fully mobilize all relevant information. Intelligent management of the financial platform should put more efforts on the comprehensive analysis of financial data, the use of modern information technology, the full utilization of all relevant data, breaking through the limitations of management accounting in the manual processing mode. At the same time, the system also has the following advantages: first, it can realize the sharing of data; second, it improves the efficiency of decision-making; and third, it can effectively improve the bank's risk management and control ability. Fourth, the intelligent strategic financial platform is designed from the standpoint of decision makers, and it is the highest form of current intelligent finance. It is built based on intelligent accounting and intelligent management, and it slowly covers the basic reasoning, judgment, and induction of the financial and accounting personnel of the enterprise through the high-level combined human-computer processing method. The intelligent strategic financial platform can organically combine the objective data of the system and the subjective judgment of the experts, and by analyzing the historical financial information of the company, it can give the decision-makers valuable suggestions for strategic improvement, thus ensuring that the enterprise is invincible in the fierce market competition. Its ultimate goal is to enable enterprises to achieve long-term, sustainable development and create greater value for the enterprise.

In the context of the new era, comprehensively deepening accounting reform and development has put forward higher requirements for the construction of accounting informationization, and the construction of accounting informationization is also a very important work, we should comply with the changes of the times, seize the opportunity to fully promote the implementation of accounting informationization projects, and to promote the overall coordinated and sustainable development of the country's economy and society. A qualified accountant should have the following conditions: (1) Must have good professionalism, professional ethics and dedication, and a rigorous work attitude; (2) Solid financial fundamentals and professional knowledge, so that it has a solid foundation. (3) A broad knowledge base and perseverance in research. However, we need to learn not only the accounting aspect, but also the economic aspect. (4) Be proficient in finance and accounting and continuously improve your English skills. (5) Strong communication skills and a strong overall quality. As a good accountant, I feel that I still have many deficiencies in this area, for which I will continue to improve myself and strive to become a good accountant. As a brand-new development trend, smart finance is still in the early stage of vigorous development, and there are many places worth exploring, both in theory and in practice. In the future development of finance, it must be closely integrated with the company's other functional segments, completely eliminating barriers in all aspects of the full flow and use of information, human-centered digital, fully automated operations back to support the operation and management of the enterprise, the company's internal organizational structure will continue to shift towards simplicity and flexibility, but at the same time, it will also become more refined. In the face of the risks associated with the transformation of financial information technology, companies are also faced with unprecedented opportunities and possibilities for development. On the basis of the theory of modern shared service model, utilizing information technology to build a company's intelligent financial platform, between users, suppliers and investors, and its rational development, this is the direction that enterprise managers and senior accounting staff should strive for. This requires each of our accounting practitioners to have a learning heart at

all times, to continuously expand their professional fields, to develop themselves into a diversified and compound talent, and to gradually adapt to the needs of the market.

#### 4. Future and Outlook

In the era of big data, our college students majoring in accounting and finance must strengthen their understanding of big data, their processing and application of big data, and keep up with the pace of the times and the pace of the times. In the process, they should establish the concept of lifelong learning and continuously improve their ability to process big data, so as to lay a solid foundation for their future work. College students should continuously learn new technologies to get rid of complicated matters and replace them with artificial intelligence. In a word, college students majoring in accounting and finance must have the concept of keeping abreast of the times and advancing with the times.

Managing the training and introduction of accounting professionals, high-quality human resources is the inexhaustible power of enterprise survival and development. In the context of the new era, enterprises need more financial managers, the promotion of big data means that financial managers must improve their computer operation level in order to keep up with the trend of the times and promote the development of the company. In this context, companies need to improve the active awareness of managers in order to improve their quality. First of all, the company should conduct regular professional training to absorb new technology. Professional lectures and special lectures can be organized regularly. Secondly, the company can carry out regular assessment of accounting personnel and formulate corresponding evaluation indexes, and establish relevant reward system so that the work enthusiasm of employees can be improved continuously. Finally, companies should strengthen the computer application level of management accounting staff, familiarize themselves with the working procedures of financial software, and learn how to use the software system to analyze and process data and information.

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