# Research on the transformation of financial accounting to management accounting in the era of artificial intelligence—Take Guodian Nanrui as an example

**Wang Ruiqi**

*Jiaying College Guangdong, Meizhou, China*

*Abstract:* In the context of the rapid rise and rapid development of artificial intelligence, big data and digital technology, the fields of financial accounting and management accounting not only face many new opportunities and challenges but also witness the trend of the transformation from financial accounting to management accounting. The field of financial accounting is undergoing profound changes. This article, through the differences and connections between financial accounting and management accounting, researches the significance of the transformation of enterprise financial accounting and the development and reform of management accounting in the artificial - intelligence era, and discusses the academic value and significance of the transformation from financial accounting to management accounting. This paper takes Guodian Nanrui Technology Co., LTD. (Guodian Nanrui), which is highly representative in the high - tech industry, as the research object. Through literature review, case analysis, data analysis and other means, it discusses the possible problems of Guodian Nanrui in the transformation from financial accounting to management accounting and proposes specific solutions and strategies for its existing problems, such as using artificial intelligence technology, establishing intelligent reports and data visualization, and cultivating and constructing a high - quality financial talent team. At the same time, it makes a prospect for the future transformation from financial accounting to management accounting.

## 1. Foreword

The emergence and development of artificial intelligence technology, especially the extensive and in - depth application of the intelligent technology of "great intelligent cloud objects", has accelerated the arrival of the digital economy era, and the digital economy has gradually become a new factor promoting economic development and a new force changing the current global competition pattern. With the rapid rise and development of artificial intelligence, big data and digital technology, the field of financial accounting is undergoing profound changes. Traditional financial accounting mainly focuses on the financial reporting and tax compliance of enterprises. However, in today's information age, the demand for internal decision support, performance management and other aspects is growing. Based on this change, it has promoted the transformation

from financial accounting to management accounting. Compared with financial accounting, management accounting pays more attention to internal operations and strategic decision - making and requires more flexible and real - time data to support managers in making accurate decisions. At the same time, with the development of information technology, the improvement of artificial intelligence technology has provided new possibilities for the transformation from financial accounting to management accounting. The era of artificial intelligence has brought many new opportunities as well as challenges to the fields of financial accounting and management accounting. Of course, this process also promotes the trend of the transformation from financial accounting to management accounting.

By studying the integration of financial accounting and management accounting, this paper reveals the role of management accounting in data - driven decision - making, strategic planning, value creation, performance evaluation and control mechanisms, and provides theoretical support for enterprises to make better management decisions and create value in the era of artificial intelligence. In the future, this will be the key path for enterprises to enhance their competitiveness and achieve sustainable development in the era of artificial intelligence. Therefore, it is of great significance to understand the development mode and trend of the transformation from financial accounting to management accounting in the era of artificial intelligence in order to adapt to today's rapidly changing business environment and improve the competitiveness of enterprises.

Guodian Nanrui Technology Co., Ltd. (hereinafter referred to as Guodian Nanrui) is the first overall - listed high - tech enterprise in the State Grid Corporation system. In the context of artificial intelligence, this paper will analyze the accounting transformation of Guodian Nanrui enterprises, aiming to study and deeply explore the transformation process and provide new ideas for other high - tech enterprises to help them make better use of artificial intelligence technology and realize the effective transformation from financial accounting to management accounting.

## 2. The status quo of digital transformation

This chapter mainly introduces the enterprise overview of Guodian Nanrui and the current situation of its digital transformation. See the details below.

### 2.1 Enterprise profile

### 2.1.1 Enterprise profile

Guodian Nanrui was founded on February 28, 2001. As the main sponsor, it first issued A - shares to the public in September 2003 and was listed on the Shanghai Stock Exchange of China on October 16. The stock is named "Guodian Nanrui", with the stock code "600406". Guodian Nanrui is an overall solution provider of the Energy Internet with energy and power intelligence as the core. It is an outstanding IT enterprise and a leading enterprise in power intelligence in the fields of energy, power, and industrial control in China.

### 2.1.2 Enterprise structure

After going through wind and rain, on October 16, 2013, Glory was listed on the Shanghai Stock Exchange. After a series of carefully - planned asset restructurings and unremitting expansion efforts, the company now has as many as 25 holding subsidiaries, among which 15 are wholly - owned subsidiaries, highlighting its strong market influence and sustainable development ability. Guodian Nanrui has a rigorous internal organizational structure, with 13 functional departments and 5 key support departments, such as the comprehensive service center and the accounting center, to ensure the smooth and efficient operation of the company.

## 2.2 Process and status quo of digital transformation of enterprise management accounting

### 2.2.1 Digital transformation process of enterprise accounting

Guodian Nanrui has been committed to promoting the digital transformation of enterprise accounting to meet the needs of today's digital environment and improve operational efficiency and innovation ability. This transformation involves improving financial systems with advanced digital technology to enable real - time monitoring and analysis of financial data. This will help improve the efficiency and accuracy of financial decisions while strengthening the collaborative operation of various businesses within the enterprise.

### 2.2.2 Status quo of digital transformation of enterprise management accounting

In the process of digital transformation, Guodian Nanrui actively adopts advanced technologies such as artificial intelligence, big - data analysis, and cloud computing to optimize financial management, cost control, and business decision - making.

As can be seen from Table 1, which shows the main financial indicators of Guodian Nanrui from 2019 to 2023, although the year - on - year growth rate of operating revenue in the recent three years is relatively stable, compared to 2020, it has a higher rate of decline. At the same time, the operating cost has changed unstably in the past five years. The company's gross sales margin and return on equity have stagnated in the recent five years and have been moving towards a stable state, indicating that the company is not rigorous enough in cost control. Consequently, the overall profitability level of the company has not improved significantly. The asset - liability ratio remains stable, which on the other hand also shows that the proportion of funds from creditors and the structure of self - owned funds remain stable.

According to the above analysis, we know that in the past five years, Guodian Nanrui's main financial indicators have changed unstably. During the digital transformation of management accounting, the company faces some potential and uncertain financial risks. How to promote the healthy and sustainable development of the transformation from financial accounting to management accounting in the context of artificial intelligence has become the focus of Guodian Nanrui's work.

Table 1: Main financial indicators of Guodian Nanrui in 2019-2023

| project | In 2019, | In 2020, | In 2021, | In 2022, | In 2023, |
|---|---|---|---|---|---|
| Operating revenue growth rate of (%) | 13.61 | 18.75 | 10.15 | 10.42 | 10.13 |
| Operating cost year-on-year growth rate of (%) | 13.39 | 18.95 | 9.96 | 9.53 | 11.13 |
| gross profit margin (%) | 14.37 | 13.54 | 14.25 | 14.74 | 14.83 |
| Return on equity: (%) | 14.82 | 15.06 | 15.70 | 16.09 | 16.08 |
| asset-liability ratio (%) | 43.14 | 44.83 | 44.26 | 40.86 | 41.47 |

Data source: Oriental Fortune network

### 2.2.3 Literature review

Yang Yuanyuan (2023) made an in-depth analysis from two aspects of positive influences and challenges, and discussed the impact of intelligent technology on the field of enterprise financial accounting, and provided beneficial ideas and suggestions for the reform of enterprise financial accounting in the era of artificial intelligence [1].

Cheng GuangAndCheng Cui liu(2024) Combined with the function of management accounting, it is found that ChatGPT can be applied to the cost analysis and control, business performance evaluation, risk management and other scenarios of management accounting, and that the possible positive impact of ChatGPT on management accounting [2] is analyzed in detail.

Liu Shuyue(2022) Combined with the concept and method of financial analysis, Harvard analysis framework theory and strategic analysis theory, comprehensively used a variety of theories and methods, deeply analyzed the companys financial situation, and put forward the corresponding strategic suggestions, to make the companys future development direction more clear [3].

Mo Chunyuan (2023) focuses on the transformation of financial accounting to management accounting in the era of artificial intelligence, as well as

The purpose and significance of this transformation, and we put forward the feasible transformation ideas, to provide a reference for the development of enterprises and reference [4].

Through the effective use of modern technologies and tools, financial companies can further improve their financial management level, achieve the continuous optimization of financial goals and the long - term development of the company.[5]

## 2.2.4 Problems and countermeasures existing in the digital transformation of Guodian Nanrui

This chapter mainly analyzes the problems existing in Guodian Nanrui and puts forward countermeasures and suggestions.

### 2.2.4.1 The root cause of the financial transformation problem

#### 2.2.4.1.1 Lack of application depth of intelligent technology

Guodian Nanrui has already made investments and accumulations in the field of artificial intelligence. As one of the world's leading high - tech manufacturing enterprises, Guodian Nanrui takes AI as the key to solving enterprise - practice problems. Combined with enterprise production, it is committed to achieving production automation and efficiency improvement and has achieved quite successful practices in many fields.

Although most enterprises have been leading the trend in the field of artificial intelligence, their application in financial management is not obvious. The core problem faced in financial transformation is that the depth of the application of intelligent technology needs to be improved. With the wave of digitalization sweeping across, traditional financial management has been unable to meet today's complex and changeable business environment. Guodian Nanrui enterprises need to integrate intelligent technology into their financial system, organically integrate business, finance, and tax, realize management optimization and efficiency improvement, enhance decision - support capabilities, analyze the reasons for the growth or reduction of important indicators such as revenue and cost, and improve the company's profitability.

#### 2.2.4.1.2 There are risks in the construction of the information system

At present, although the use of artificial intelligence in the field of financial accounting is gradually increasing, but the technology itself still needs to be improved, which has brought a series of potential information security risks. Therefore, in enterprises like Guodian Nanrui, it is necessary to strengthen information security management measures and take effective measures to resolve the potential financial information security risks brought by artificial intelligence. The outside worlds doubts about the safety of Guodian Nanrui products have brought a certain degree of pressure to the companys information security management. However, Guodian South Rui has taken a series of measures, including strengthening internal security reviews, working with third-party organizations to conduct security assessments, and improving transparency, to address these issues and improve its information security management level.

### 2.2.4.1.3 The organizational structure still needs to be optimized

Where Guodian Nanrui probably needs to optimize its organizational structure includes a greater emphasis on the importance of cross-departmental collaboration and communication to promote more efficient decision-making and resource allocation. Furthermore, as the company expands, it may need to more clearly define the responsibilities and permissions of the departments to ensure coordination and flexibility across the entire organization.

### 2.2.4.2 Solve the problem of financial transformation with ideas

### 2.2.4.2.1 Solutions of intelligent technology application

(1) Guodian Nanrui enterprises can strengthen the application of big - data and artificial - intelligence technology. By collecting, integrating, and analyzing massive amounts of data, Guodian Nanrui can more accurately predict market trends, optimize capital operations, and realize refined financial management. At the same time, AI technology can be used to automate financial processes, reduce human errors and repetitive work, and improve work efficiency.

(2) Guodian Nanrui enterprises should pay attention to the application of blockchain technology in the financial field. Its decentralized nature and immutable ledger make blockchain ideal for ensuring transaction security and transparency. With the help of blockchain technology, Guodian Nanrui can establish a more reliable and efficient financial - transaction system and improve the authenticity and credibility of financial data.

(3) Guodian Nanrui enterprises can also explore the construction of an intelligent risk - management system. Combined with machine - learning and risk - management models, Guodian Nanrui can better identify, assess, and manage all kinds of risks and take corresponding measures, so as to effectively reduce financial risks.

It is worth mentioning that these issues have attracted the attention of the company's senior management, and Guodian Nanrui has been trying to improve its information - security management standards to ensure the safety and reliability of its products and services.

### 2.2.4.2.2 Solutions of information system construction

As mentioned in the question, Guodian Nanrui has begun to take a series of measures, but there are still areas to pay attention to. The construction of information security system is to ensure the security of information assets. It is necessary to cover the construction of a strong and solid firewall and establish a perfect backup system to ensure the security and reliability of data. In addition, it is also necessary to revise and improve the existing information security management system according to the needs of financial accounting information security management, especially to clearly define the security management responsibilities and system operation authority of financial personnel, so as to effectively avoid the information risk brought by human factors. Through these measures, enterprises can effectively protect the security of financial data, and ensure the stable operation of the financial management system and the integrity of information assets.

### 2.2.4.2.3 Solution ideas of organizational structure

Guodian Nanrui needs to strengthen its support for new technologies and innovations, and integrate them into all levels of the organization, which helps to improve the competitiveness and adaptability of the company. Finally, establishing a more open and inclusive corporate culture, encouraging employees to propose innovative ideas and actively participate in the decision-making process, helps to stimulate their creativity and team spirit. These improvements will help to improve

the companys operational efficiency and innovation capabilities.

### 2.2.4.3 Suggestions on the transformation of enterprise financial accounting to management accounting in the era of artificial intelligence

### 2.2.4.3.1 Break down internal and external data barriers to realize intelligent data connection

In breaking through internal and external data barriers and realizing intelligent data application, the transformation from financial accounting to management accounting can be realized through the following ways:

(1) Data integration and cleaning: Guodian Nanrui can integrate the data of various internal departments, clean and standardize the data, to ensure the data quality and consistency. This will lay the foundation for the subsequent analysis and applications.

(2) Establishment of a data warehouse and a data lake: Guodian Nanrui can establish a data warehouse and a data lake to store data from different sources on a unified platform to facilitate management and analysis. This helps to improve the accessibility and availability of the data.

(3) Guodian Nanrui can establish intelligent reports and data visualization: Guodian Nanrui can develop intelligent reports and data visualization tools to display the data analysis results in an intuitive and easy - to - understand way, and help the management to make decisions quickly.

### 2.2.4.3.2 Build an intelligent information system based on the needs of management accounting data

In the era of artificial intelligence, the transformation path of enterprise financial accounting to management accounting is very important. Management accounting data requirements include real-time financial information, forecast analysis, cost management and other aspects to support management decisions. In order to build an intelligent information system, enterprises can integrate advanced technologies such as data analysis, machine learning and natural language processing to realize automated data collection, processing and analysis. Smart systems can quickly generate reports and provide customized analyses to help management better understand business conditions and make precise decisions. At the same time, ensuring the security and privacy protection of information systems is an indispensable factor in the process of enterprise transformation.

### 2.2.4.3.3 Deep integration of industry and finance, and realize the comprehensive digitalization of industry and finance management

The transformation and upgrading of management accounting has not only changed the traditional way of accounting working, but also represents a technological revolution, aiming at innovating research and improving working methods. This transformation requires not only a more detailed decomposition of the original work, but also the combination of financial data and business operation through management accounting tools, so as to fully realize the integration of business and finance, so as to finally realize the transformation and upgrading of management accounting. This means that enterprise financial management personnel need to deeply study the work and methods of management accounting, and strengthen the communication with enterprise managers and production and operation departments, in order to fully understand the strategic objectives of business operation. In addition, artificial intelligence (AI) and big data analysis technology are used to establish a systematic and multi-dimensional management accounting analysis system, and strengthen the processes of budget management, contract review, risk assessment and so on. In daily work, we should carry out the accounting and supervision in traditional financial management, and analyze and integrate the final formed enterprise operation data, so as to provide support for the business decisions of enterprise managers, and finally implement the strategic goals of the enterprise to every corner of the enterprise to achieve financial value creation.

### 2.2.5 Conclusions and outlook.

### 2.2.5.1 Conclusion

In the digital era, as an enterprise facing fierce market competition, Guodian Nanrui must improve the management and decision-making level of the financial accounting team, which has become the internal requirement of the sustainable development of the company. In this context, the transformation of financial accounting to management accounting has become a key measure to realize the scientific enterprise management and management decision-making. This paper deeply discusses the importance of the transformation of financial accounting to management accounting in the era of artificial intelligence, and analyzes the significance of the transformation. On this basis, the paper discusses the specific path of transformation, aiming to improve the scientific nature of enterprise management and decision-making, and promote the healthy development of Guodian Nanrui enterprises.

### 2.2.5.2 Outlook

With the rapid progress and continuous iteration of artificial intelligence technology, the application and practice of intelligent technology is increasingly rich and deepened,

Especially in the field of finance, the blueprint of intelligent financial construction has gradually become clearly visible. However, it cannot be ignored that there are significant differences among enterprises in cultural accumulation, information system structure, staff quality level and other aspects. Therefore, although detailed improvement suggestions have been put forward for this specific enterprise of Guodian Nanrui, these suggestions are not widely universal. In fact, every enterprise needs to carefully adjust and optimize the intelligent financial construction plan according to its own unique conditions and needs. In addition, due to the limitations of my own theoretical knowledge and practical experience, there are still some limitations in the analysis of the intelligent financial construction scheme. These limitations are not only reflected in the breadth of the content, but also in the depth of the analysis that needs to be further explored and improved. In order to overcome these limitations and ensure that the intelligent financial construction scheme can better adapt to the actual needs of different enterprises, it is still necessary to continuously improve and optimize the intelligent financial scheme in the follow-up work to adapt to the changing market environment and the needs of enterprises. At the same time, it is necessary to strengthen the exchange and cooperation with other enterprises in the industry, learn from the successful experience of other enterprises, constantly improve the level and effect of intelligent financial construction, provide strong support for the sustainable development of enterprises, continuous in-depth research.

### References

[1] Yang Yuanyuan. Analysis of the impact of artificial intelligence on corporate financial accounting [J]. China Agricultural Accounting, 2023, 33(24):12-14.DOI:10.13575/j.cnki.319. 2023.24.002.

[2] Cheng Guang, Cheng Cuiliu. Research on the application scenarios of management accounting based on ChatGPT [J]. Friends of the Accounting, 2024 (06): 15-20.

[3] Liu Shuyue. Financial Analysis research of Guodian Nanrui based on Harvard Analysis Framework [D]. Shenyang Jianzhu University, 2022.DOI:10.27809/d.cnki.gsjgc. 2022.000176.

[4] Mo Chunyuan. Discussion on the transformation of corporate financial Accounting to management accounting in the era of artificial intelligence [J]. Investment and Entrepreneurship, 2023, 34 (22): 31-33.

[5] Abdoh M JA. The Impact of AccountingSystem Effectiveness in Organizing Financial Management in Companies: AField Study [J]. Journal of Business and Management Studies,2023,5(4).