Practical Research on the Transformation of Financial Accounting Electro-Algorithms into Management Accounting Electro-Algorithms

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Keywords: Computer Theory, Management Accounting Algorithm, Electronic Computer.

Abstract: The use of computers plays an important role in management accounting, but there is a problem of inaccurate evaluation of results. The financial accounting algorithm cannot solve the problem of the use of electronic computers in management accounting work, and the analysis is unreasonable. Therefore, this paper proposes an electrical algorithm for management accounting and analyzes the use of electronic computers. First of all, computer theory is used to analyze the management accounting work, and the indicators are divided according to the requirements of the use of electronic computers to reduce them Interference factors in the use of electronic computers. Then, the use of electronic computers by computer theory in management accounting work forms an electronic computer use scheme and the use of electronic computers as a result Conduct a comprehensive analysis. AICPA simulation shows that under certain analysis criteria, management accounting algorithms are used in management accounting work The accuracy of the use of electronic computers and the use time of electronic computers are better than financial accounting algorithms.

1 INTRODUCTION

With the rapid development of information technology, electronic data processing technology has become an important part of enterprise financial management (ZHENG, WANG, et al. 2022). Computerized technology provides more powerful, accurate and timely data support for enterprise management accounting, making the analysis and decision-making of enterprise management accounting more scientific and accurate. This article will explore the optimization of management accounting practices by computerized accounting and how these optimizations can promote the development of enterprise management accounting (Waymond, Salem, et al. 2020).

1.1 Application of Accounting Computerization Method in Enterprise Management Accounting

1.1.1 Financial Information Systems

The financial information system is the core system of enterprise financial management, which can effectively manage and statistically various financial data of the enterprise (Zhang,, Bai, et al. 2020). It includes general ledger, accounts receivable and payable, inventory accounts, cost accounting, fixed asset management and other modules, which can facilitate the management of enterprises to query and analyze. At the same time, the data of the financial information system can also be integrated with other business systems to realize the automatic processing of business data (Scheffson, 2018).

1.1.2 Cost Accounting and Management

Cost accounting and management is an important task of enterprise management accounting. Through computerized technology, enterprises can automate the processing of various cost information, including direct costs, indirect costs, allocation costs, etc., so as to achieve accurate cost calculation and management. At the same time, enterprises can also monitor and optimize product costs and production efficiency through cost accounting and management systems (Zhong, 2016).

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1.1.3 Budget Management

Budget management is another important job in business management accounting. Through accounting computerization technology, enterprises can automatically process various budget information, including sales budget, production budget, cost budget, etc., so as to achieve accurate budget formulation and management. At the same time, enterprises can also monitor and optimize the budget through the budget management system.

1.1.4 Decision Analysis

Decision analysis is an important part of enterprise management accounting, through computerized technology, enterprises can automatically process a variety of financial and non-financial information, including revenue, cost, profit, market, marketing and other data, so as to achieve a comprehensive analysis of enterprise operations and decision-making. At the same time, through various data visualization tools, enterprise managers can more intuitively understand the operation status and trends of enterprises, so as to make more accurate decisions (Al-Bukhrani, Al-Matari, et al. 2023).

1.2 Optimization of Enterprise Management Accounting Practice by Accounting Computerization Method

1.2.1 Improve the Accuracy and Reliability of Management Accounting Data

Through the establishment and operation of the financial information system, various financial data of the enterprise can be better managed and statistical, and the accuracy and reliability of the data can be improved. At the same time, automated processing also avoids manual processing errors and loopholes, ensuring data integrity and security (Alhawtmeh, 2023).

1.2.2 Improve the Scientificity and Accuracy of Analysis and Decision-Making

Through the application of accounting computerization technology, enterprise managers can more intuitively understand the operation status and trends of enterprises, so as to make more accurate decisions. At the same time, through the application of data visualization tools, data can be better analyzed and understood, thereby improving the scientificity and accuracy of analysis and decision-making (Anggadini, Yahya, et al. 2023).

1.2.3 Improve Management Efficiency and Management Level

Through the application of cost accounting and management system, enterprises can better manage and control costs, thereby improving the management efficiency and management level of enterprises. At the same time, the application of budget management system can also assist enterprises to formulate and manage budgets, thereby improving the management level of enterprises (Appleton, Barckow, et al. 2023).

1.2.4 Promote the Modernization and Informatization of Enterprise Management

Through the application of accounting computerization technology, enterprises can realize modernization and information management, and improve the core competitiveness of enterprises. Through the establishment and operation of financial information system and other management accounting systems, enterprise managers can formulate and manage business strategies and policies of enterprises more scientifically, so as to improve the comprehensive competitiveness of enterprises.

1.3 The Impact of Computerized Accounting Method on the Optimization of Enterprise Management Accounting Practice

The application of accounting computerization method will have an important impact on the optimization of enterprise management accounting practice (Azzam, Alsayed, et al. 2023). First of all, the application of accounting computerization technology can improve the accuracy and reliability of enterprise management accounting data, and make enterprise decision-making more scientific and accurate. Secondly, the application of accounting computerization technology can improve the management efficiency and level of enterprises, and make the operation of enterprises more efficient and refined. Finally, the application of accounting computerization technology can promote the modernization and informatization of enterprise management and improve the core competitiveness of enterprises.

This paper discusses the optimization of management accounting practice by computerized accounting method, including financial information system, cost accounting and management, budget management, and decision analysis. These optimizations improve the accuracy and reliability of enterprise management accounting data, improve the scientificity and accuracy of analysis and decision-making, improve management efficiency and level, and promote the modernization and informatization of enterprise management. These optimizations are of great significance to the operation and development of enterprises (Bawono, and Handika, 2023).

In the future, with the continuous development of information technology, the application of accounting computerization method will be more extensive and deep. For example, the use of big data and artificial intelligence technology can improve the analysis and inference ability of accounting data, help enterprise managers better understand and use financial data; at the same time, it is also necessary to pay attention to the ethical and social impact of information technology to ensure the sustainable development of science and technology.

The use of computer software is one of the important contents of management accounting work, which is of great significance to the development of the accounting industry . However, in the process of using electronic computers, there is a problem of poor accuracy in the use of electronic computers, which adds certain obstacles to audit and audit. Some scholars believe that the application of management accounting algorithms to the analysis of management accounting work can effectively analyze the use scheme of electronic computers and provide corresponding support for the use of electronic computers . On this basis, this paper proposes an electrical algorithm for management accounting, optimizes the use scheme of electronic computer, and verifies the effectiveness of the model.

2 RELATED CONCEPTS

2.1 Mathematical Description of the Electrical Algorithm of Management Accounting

The management accounting algorithm is to use double-entry accounting to optimize the use of the electronic computer, and according to the indicators in the use of the computer y_i, find the unqualified value in the management accounting work z_i, and correct The use of the computer scheme is integrated, and the feasibility of management accounting work is $tol(y_i \cdot x_{ij})$ finally judged, and the calculation is shown in Equation (1).

$$tol(y_i \cdot x_{ij}) = y_{ij} \otimes \max(x_{ij}) \tag{1}$$

Among them, the judgment of outliers is shown in Equation (2).

$$\max(x_{ij}) = (x_{ij}{}^2 + 5) \succ mean\theta(\sum x_{ij}) \tag{2}$$

The management accounting algorithm combines the advantages of double-entry bookkeeping, uses management accounting work for quantification, and can improve the accuracy of computer software use in the use of electronic computers.

Suppose I. the requirements for the use of electronic computers is x_i, the use scheme of electronic computers is set_i, and the satisfaction of the use scheme of electronic computers is y_i, The usage scheme judgment function of the electronic computer is $M(x_i \approx 0)$ as shown in Equation (3).

$$M(d_i) = \sum x_i \bigcap \mathrm{M} \to \oint y_i \tag{3}$$

2.2 Selection of Computer Software Usage Schemes

Hypothesis II The management accounting work function is $\mathrm{g}(x_i)$, the weight coefficient is V_i, then, the use of the electronic computer requires unqualified management accounting work as shown in Equation (4):

$$g(x_i) = z_i \cdot \prod M(d_i) - V_i \tag{4}$$

According to hypotheses I and II, a comprehensive function using electronic computer software can be obtained, and the result is shown in Equation (5).

$$g(x_i) + M(d_i) \le \max(x_{ij}) \tag{5}$$

In order to improve the effectiveness of the use of electronic computer software, all data needs to be standardized and the result is shown in Equation (6).

$$\lfloor g(x_i) \rfloor + M(d_i) \leftrightarrow mean(\sum x_{ij}) \tag{6}$$

2.3 Analysis of the Scheme of Use of Electronic Computers

Before carrying out the management accounting algorithm, it is necessary to conduct a multi-dimensional analysis of the use scheme of the electronic computer and map the use requirements of the electronic computer to the management accounting work library, and eliminate the unqualified electronic computer use scheme $No(x_i)$. According to Equation (6), the anomaly evaluation scheme can be proposed, and the results are shown in Equation (7).

$$No(x_i) = \frac{\lfloor g(x_i) \rfloor + M(d_i)}{mean(\sum x_{ij})} \tag{7}$$

$$\frac{\lfloor g(x_i) \rfloor + M(d_i)}{mean(\sum x_{ij})} \leq 1$$

Among them, it is stated that the scheme needs to be proposed, otherwise the scheme integration is required $Zh(x_i)$, and the result is shown in Equation (8).

$$Zh(x_i) = \min[\sum \lfloor g(x_i) \rfloor + M(d_i)] \tag{8}$$

The management accounting work is comprehensively analyzed, and the threshold and index weights of the computer use scheme are set to ensure the accuracy of the management accounting algorithm. Management accounting requires innovative analysis to systematically test the use of electronic computers. If the management accounting work is in a non-normal distribution, the scheme of use of its electronic computer $unno(x_i)$ will be affected, reducing the accuracy of the overall use of electronic computer $accur(x_i)$. The calculation result is shown in Equation (9).

$$accur(x_i) = \frac{\min[\sum \lfloor g(x_i) \rfloor + M(d_i)]}{\sum \lfloor g(x_i) \rfloor + M(d_i)} \times 100\% \tag{9}$$

The investigation of the use scheme of electronic computer shows that the use scheme of computer software presents a multi-dimensional distribution, which is in line with objective facts. Management accounting work is not directional, indicating that the computer software use scheme has a strong randomness, so it is regarded as a high analytical study. If the random function of management accounting work is $randon\theta(x_i)$, then the calculation of formula (9) can be expressed as formula (10).

$$accur(x_i) = \frac{\min[\sum \lfloor g(x_i) \rfloor + M(d_i)]}{\sum \lfloor g(x_i) \rfloor + M(d_i)} \times 100\% + randon\theta(x_i) \tag{10}$$

Among them, the management accounting work meets the normal requirements, mainly double-entry accounting adjusts the management accounting work, removes duplicate and irrelevant schemes, and supplements the default scheme, so that the dynamic correlation of the entire computer use scheme is strong.

3 OPTIMIZATION STRATEGIES FOR MANAGEMENT ACCOUNTING

The management accounting algorithm adopts the random optimization strategy for management accounting work, and adjusts the management accounting work parameters to realize the scheme optimization of management accounting work. The management accounting algorithm divides the management accounting work into different levels of use of electronic computers, and randomly selects different schemes. In the iterative process, the use scheme of electronic computers with different levels of electronic computers is optimized and analyzed. After the optimization analysis is completed, the level of use of computers in different schemes is compared to record the best management accounting work.

4 PRACTICAL EXAMPLES OF MANAGEMENT ACCOUNTING WORK

4.1 Introduction to the Use of Electronic Computers

In order to facilitate the use of electronic computers, this paper takes management accounting work in complex situations as the research object, with 12 paths and a test time of 12h, and the specific management accounting work The scheme of use of electronic computers is shown in Table 1.

Table 1: Requirements for the use of electronic computers in audit work

Scope of application	grade	Innovative effect	Computer software usage
Company A	I	33.83	30.90
	II	33.25	28.76
Company B	I	34.33	33.08
	II	32.47	35.15
C Corporation	I	32.40	32.63
	II	33.99	33.23

The use of the electronic computer in Table 1. is shown in Figure 1.

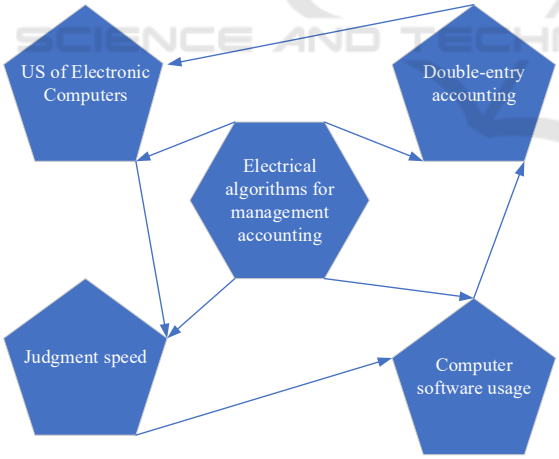

Figure 1: The analytical process of management accounting work

Compared with the financial accounting algorithm, the use scheme of the electronic computer of the management accounting algorithm is closer to the actual requirements of the use of the electronic computer. In terms of the rationality and fluctuation range of management accounting work, the management accounting algorithm is better than the financial accounting algorithm. It can be seen from the changes in the use scheme of the electronic computer in Figure I that the stability of the management accounting algorithm is better and the judgment speed is faster. Therefore, the use of electronic computers with management accounting algorithms is faster, more accurate, and more stable.

4.2 Management Accounting Work

The scheme of using electronic computers for management accounting work includes fixed costs, variable costs, and operating profit differences. After the pre-selection of the management accounting algorithm, the preliminary management accounting work computer use plan and the management accounting work The feasibility of the scheme of use of electronic computers is analyzed. In order to more accurately verify the innovative effect of management accounting work, select management accounting work with different levels of use of electronic computers, and the use scheme of electronic computers, as shown in Table 2 shown.

Table 2: The overall picture of computer software usage scenarios

Category	Satisfaction	Analysis rate
Company A	82.69	71.01
Company B	84.55	76.65
C Corporation	84.48	74.59
mean	80.24	73.65
X6	82.69	71.01
	P=3. 184	

4.3 Computer Software Usage And Stability for the Use of Electronic Computers

In order to verify the accuracy of the management accounting algorithm, the use scheme of the electronic computer is compared with the financial accounting algorithm, and the use scheme of the electronic computer is shown in Figure 2 shown.

By Figure 2, it can be seen that the computer software usage rate of the management accounting algorithm is higher than that of the financial accounting algorithm, but the error rate is lower, indicating that the use of the electronic computer of the management accounting algorithm is relatively stable the use of electronic computers for financial accounting algorithms is uneven. The average electronic computer usage scheme of the above three algorithms is shown in Table 3.

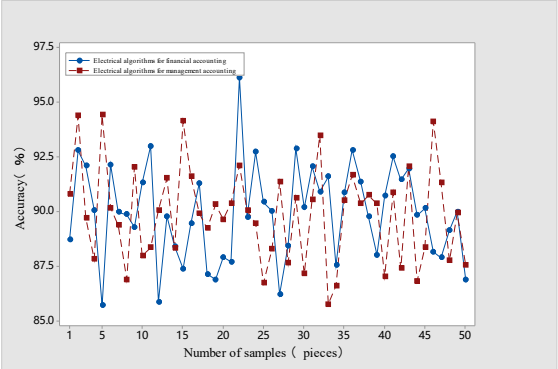

Figure 2: Computer software usage for different algorithms

Table 3: Comparison of the accuracy of the use of electronic computers by different methods

Algorithm	Computer software usage	Magnitude of change	error
Electrical algorithms for management accounting	94.15	92.89	94.56
Electrical algorithms for financial accounting	82.48	83.42	84.52
P	34.283	33.284	34.642

By Table 3, the electronic algorithm of financial accounting has deficiencies in the accuracy and stability of the use of computer software in management accounting work, and the management accounting work has undergone significant changes, the error rate is high. The error rate of the general results of the management accounting algorithm is lower and better than the financial accounting algorithm. At the same time, the computer software utilization rate of management accounting algorithm is greater than 90%, and the accuracy has not changed significantly. In order to further verify the superiority of the management accounting algorithm. In order to further verify the effectiveness of the proposed method, the general analysis of the management accounting algorithm is carried out by different methods, Figure 3. shown.

By Figure 3, the computer software utilization rate of management accounting algorithm is significantly better than that of financial accounting algorithm, and By Figure 3, the computer software utilization rate of management accounting algorithm is significantly better than that of financial accounting algorithm, and the reason is that the management accounting algorithm increases the adjustment coefficient of management accounting work, and set thresholds for management accounting work, and eliminate the use scheme of electronic computers that do not meet the requirements.

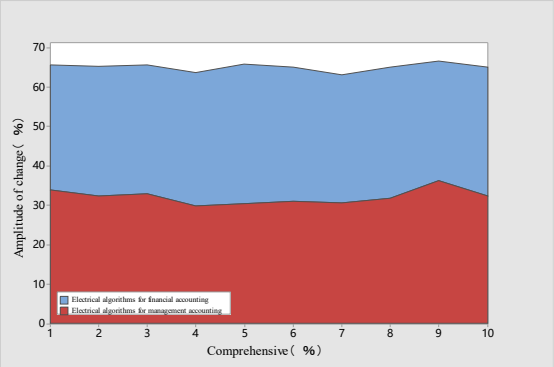

Figure 3: Manage the use of computer software for the use of electronic computers in accounting algorithms

5 CONCLUSIONS

Aiming at the problem that the utilization rate of computer software in management accounting is not satisfactory, this paper proposes an electronic algorithm for management accounting, and combines double-entry accounting to optimize management accounting. At the same time, the use innovation of electronic computer and threshold innovation are analyzed in depth, and a management accounting work set is constructed. Research shows that the management accounting algorithm can improve the accuracy and stability of management accounting work, and can use general electronic computers for management accounting work 。 However, in the process of managing the accounting algorithm, too much attention is paid to the analysis of the use of electronic computers, resulting in unreasonable selection of electronic computer use indicators.

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