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Exploration of the Training Model of Applied Management Accounting Talent in the Context of Digital Intelligence

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Abstract
Against the background of digital intelligence, digital intelligence applied management accounting has become an inevitable choice for the cultivation of accounting personnel in colleges and universities. However, the outdated concept of "emphasis on accounting and neglect of management" has not been changed in time by multiple entities, such as enterprises and universities, which has led to the cultivation of accounting personnel in colleges and universities. Due to the deviation from demand, enterprises and schools have fallen into the dilemma of supply and demand, which has constrained the sustainable and healthy development of domestic enterprises. There is an urgent need to explore the training mode of digital intelligence application-oriented management accounting talent. Based on an in-depth analysis of the literature at home and abroad and a full investigation of the current status, it is found that the current domestic training of digital intelligence applied management accounting talent is mainly faced with the entrenched thinking of "light management," a lack of clear training orientation, an absence of multisynergic education, and a lack of training resources. Insufficient conditions, imperfect training models, and the decoupling of supply and demand for talent training are among the problems. In response to the above problems, the "ternary fusion" dynamic teaching model, the diverse and flexible teaching and testing model, the "one engine, two drivers" collaborative education model and the "internal student and external introduction" teacher training model have been established to aid in the application of number intelligence in China. Cultivation of management accounting talent.

Keywords: Digital Age, Application-Oriented, Management Accounting Talent, Training Mode

1. Introduction

In August 2013, China officially entered the era of digital intelligence (Du & Deng, 2022). With the continuous advancement of the digital age, the rapid development and wide application of emerging digital technologies are urging digital transformation in all social and economic fields. In the process, emerging digital technologies such as artificial intelligence have gradually penetrated various industries and wreaked havoc on most traditional industries. Financial accounting is one of the major impacts. In the digital finance era, artificial intelligence represented by financial robots can use big data processing capabilities to efficiently and accurately complete the workload of financial accountants for approximately five days within minutes, greatly reducing accounting costs (Du & Deng, 2022). Therefore, it has naturally taken over the vast majority of accounting work, such as mechanical numerical calculations and statistics. The demand for accounting talent has changed from financial accounting,

which is responsible for basic accounting and information transfer, to management accounting, which helps managers achieve the optimal use of resources by controlling and planning enterprises' human, financial, material and other resources (Guo, 2023).

As an enterprise's decision-making and control system, management accounting provides important support for ensuring the orderly operation of an enterprise's internal management (Liu et al., 2020). It should comply with the requirements of the digital age and actively grasp and use digital technology to improve the quality of decision-making information and reduce the company's operating costs. In this regard, the Ministry of Finance clearly proposed in the "Plan for the Development of Talents for the Accounting Industry (2021-2025)" that the cultivation of high-level digital intelligence application-oriented talent who is proficient in the profession and can skillfully use digital technology and have both strategic thinking and innovation ability is clearly proposed. Management accounting talent (Li & Dong, 2022). As the training bases for management accounting talent in China, colleges and universities should shoulder the important task of meeting the needs of the digital transformation of enterprises for digital intelligence application-oriented management accounting talent. Therefore, how to cultivate digital intelligence application-oriented management accounting talent that meets the needs of the current development has become an important topic that colleges and universities need to explore.

2. Literature review

2.1 Evolution of the competency framework of applied management accounting talent

At present, there are two main research subjects in the competency framework of applied management accounting talent. The first is accounting professional groups. In 1999, for the first time, the American IMA Institute proposed evaluation indicators for management accountants' functions; these indicators included nine modules, namely, management and cost accounting, which symbolized the beginning of the study on the management accounting competency framework. In 2014, the CIMA and AICPA established a competency framework for certified global management accountants based on "ethics, integrity and professionalism," which includes four modules: interpersonal skills, technical skills, management skills and leadership skills (Peng, 2017). In 2016, the American IMA Institute once again proposed five core competencies for management accountants—operation, technology, planning and reporting, decision-making and leadership—and refined them into 28 core competencies. In 2019, the CGMA released the latest competency framework for management accounting, which for the first time added digital skills in addition to interpersonal, technical, business, and leadership skills and was the first competency framework to meet the needs of the digital age (Ding, 2021). The next group includes folk scholars. Zhang et al. divided management association plans into two types—assistant type and management type—and defined the core abilities that different types of talent need to possess, including nine abilities—financial management and planning ability and budget management ability (Dai, 2018). Based on the new IMA competency framework for management accountants, Guo proposed the competency framework of applied management accounting talent of "six-dimensional fields + multidimensional capability elements," which specifically included strategy, planning and performance, reporting and control, technology and analysis, business acumen and operation, and leadership. abilities, professional ethics and values (Guo, 2022). Zhang et al. established the MA-CMM capability framework based on the capability maturity model and the latest capability framework of CGMA for reference and subdivided it into five levels according to capability maturity to achieve accurate capability positioning (Zhang, Kong, & Yin, 2020).

2.2 Reform of the training model for applied management accounting talent

Albrecht et al. proposed that accounting education should emphasize the teaching of basic accounting principles and principles and the training of skills. The theory can be consolidated through case teaching, practical operation can be realized through internship experience, and wide-scale curriculum system design integrated into group cooperation can cultivate the multidimensional ability of management accounting. R Rudman et al. believe that teamwork ability is very important for applied management accounting and advocate teamwork projects as an important tool in the teaching of applied management accounting. By strengthening classroom interaction between teachers and students and improving classroom teaching, Xin Chunhua proposed a "dual-subject and three-

dimensional interaction" teaching model based on a problem-based teaching strategy, a case teaching strategy and a heuristic teaching strategy. Based on the CDIO concept, Wei Li established the practical teaching mode of applied management accounting majors, which realized the organic integration of the concept of higher engineering education and the teaching of applied management accounting (Li, 2013). Cheng Ping and Wang Jianjun constructed a financial digital application ability training model based on the CDIO concept (Cheng & Wang, 2018). Yunchao Du and Haoying Deng used blockchain technology to create an innovative training model for digital intelligence application-oriented management accounting talent that is jointly supported by three major chains: the private chain, the alliance chain and the public chain (Cheng & Wang, 2018).

In summary, current academia has conducted research on applied management accounting talent from different perspectives and has achieved some results, but there are still two problems to be solved urgently. First, the theoretical foundation of digital-intelligence applied management accounting talent is still weak. Most of the current literature is based on the perspective of application-oriented management accounting talent, and there is still a large gap in the research on digital intelligence application-oriented management accounting talent. Second, the research on the existing capability framework and the research on training models are independent of each other. At present, studies related to the ability framework and training models of digital intelligence-applied management accounting talent continue to emerge, but the general problem is that the correlation is not strong. There are few studies on the construction of training models based on the predecessors' ability frameworks or the implementation of the ability framework and training models in the same paper. A study on related innovations. In view of this, this paper hopes to make breakthroughs in the theoretical basis and results correlation to provide reference experience for related research.

3. Interpretation of the current status and problem analysis of digital intelligence training applied to management accounting talent

3.1 The idea of "light management" is deeply ingrained, and the training positioning is not yet clear

According to the probability of 365 occupations being eliminated in the digital age, jointly completed by the BBC and the University of Cambridge, the probability of financial accounting, with bookkeeping and audit as its basic function, being eliminated by AI is 97.6%, ranking third (Guo, 2023). The shift in the demand for accounting talent from financial accounting to management accounting has become an irresistible trend. However, in their actual work, most enterprises lack forward-looking awareness, ignore the important value of digital intelligence applied to management accounting talent in promoting the realization of digital transformation and sustainable development, and still maintain the traditional thinking of "emphasis on accounting over management," which constrains accounting talent's ability to achieve digital transformation and sustainable development. The training of digital intelligence applied management accounting talent has been promoted. Second, academia has not yet paid enough attention to numerically applied management accountants. At present, there are very few studies based on the perspective of digital intelligence applied to management accounting talent, and there is a large gap in this area. In the end, some colleges and universities have been keenly aware of the changes in the market environment and have made active attempts to cultivate application-oriented management accounting talent. For example, the Central University of Finance and Economics independently established the Department of Management Accounting and adopted the form of enterprise-university cooperation to develop the department. Students will undergo joint training (Ma, 2023). However, our survey reveals that the current orientation of accounting talent in most colleges and universities is still inclined toward financial accounting; management accounting is offered only as a professional elective course and is taught mostly by financial accounting teachers; and the setting of digital technology courses is even more unsatisfactory. The current training positioning of digital intelligence applied management accounting talent in colleges and universities is not clear and is still being explored.

3.2 Lack of diversified and coordinated education and insufficient training resources

The shortage of training resources is a common problem in colleges and universities in China, and the root cause lies in the absence of a diversified and coordinated education mechanism. The training of digital intelligence applied management accounting talent is a systematic project that requires the collaborative participation and

support of multiple subjects. However, in reality, due to the deviation of the value orientation of each principal educator and the unclear boundary of the educational responsibility, the situation in which colleges and universities are fighting alone has little effect. First, from the perspective of enterprises, due to the intensification of market competition, enterprises are increasingly focusing on the protection of their core trade secrets, while enterprise-school cooperation is bound to cause the flow of personnel and technology, resulting in relative transparency within the enterprise. The gains are minimal, which is not in line with the economic thinking of enterprises to "maximize their interests." Therefore, the practicability of enterprise-school cooperation in educating talent is not strong, and enterprises have failed to fully support technical resources. Second, from the perspective of the government, the current organizing and guiding role of the government in the process of diverse and coordinated education is still not in place, and the functional positioning and interest mechanism of each subject have not been well coordinated. In addition, its support for the training of digital intelligence-applied management accounting talent needs to be improved. The absence of relevant policies and incentive mechanisms has increased funding pressure for talent training and reduced actual operability. Finally, from the perspective of colleges and universities, while digital technology is changing the accounting knowledge system, it also has a corresponding increase in the ability requirements of teachers. Teachers need to not only have solid theoretical knowledge and rich practical experience but also have mastery of digital technology and the ability to provide accounting knowledge. integrated into the teaching. However, most existing teachers specialize in professional theories, and there are very few of the top three teachers, "digital + theory + business," who can meet the training needs of number-intelligent applied management accounting talent, which directly constrains the progress of the training and implementation of number-intelligent applied management accounting talent.

3.3 The training model is still not perfect, and the supply and demand for talent training are decoupled

At present, the training mode of numerically applied management accounting talent in colleges and universities generally has the following problems. First, the textbooks are outdated and lack the integration of cutting-edge technologies. At present, most management accounting textbooks in China still focus on the five basic functions of management accounting and lack the integration of content related to cutting-edge digital technology such as accounting big data analysis and processing technology. As a result, talent training lags behind the needs of enterprises for new business activities. Second, the curriculum system deviates from needs, resulting in low training efficiency. At present, colleges and universities have not yet adjusted the focus of the accounting curriculum system. The existing theoretical practice courses of the accounting profession still focus on traditional financial accounting, the presence of management accounting courses is low, and the number of management accounting courses in most colleges and universities lags behind the current development. There is a lack of interdisciplinary disciplines in mathematics and science. In addition, the problem of "emphasizing theory over practice" is common in the training of management accounting personnel in China, and most colleges and universities have never offered management accounting training courses. This curriculum system, which only emphasizes theoretical knowledge and neglects practical ability and interdisciplinary innovation, makes it difficult to cultivate students' comprehensive abilities and plunges enterprises and schools into the dilemma of supply and demand. Third, teaching assessment methods lag behind, and the training goal of rebellious thinking is set. In terms of teaching mode, "crash-style" passive theoretical study still plays a dominant role, and the lack of heuristic and exploratory practical teaching makes it difficult to arouse the enthusiasm of students. In terms of assessment forms, the assessment forms of management accounting courses are still based on theoretical statements and face-to-face answers, which mainly assess textbook knowledge and are seldom combined with actual cases; thus, they fail to measure students' management decision-making ability and data processing and analysis ability. The goal of the strategic thinking of "integration of industry and finance" is contradictory.

4. Exploration of the training model of applied management accounting talent in the context of digital intelligence

4.1 Construction of a "ternary fusion" dynamic teaching model to achieve the goal of cultivating top-notch talent

First, the framework of talent training capability should be clarified, and the training objectives of top-notch talent should be formulated. The primary prerequisite for cultivating numerically applied management accounting talent

is the formulation of reasonable and complete training objectives for numerically applied management accounting talent, and the basic project for setting the training objectives for digitally applied management accounting talent is a clear and systematic number-intelligent applied management approach. Accounting talent competency framework. On the basis of fully investigating and analyzing the talent orientation in the current employment market, this paper chose the MA-CMM capability framework (Zhang, Kong, & Yin, 2020), which is more in line with the training positioning of undergraduate management accounting talent, and formulated the following training objectives in combination with the current status of digital intelligence applied management accounting talent in colleges and universities. : Undergraduate digital intelligence applied management accounting talent should have professional ability, digital technology application ability, management ability, leadership ability, and interpersonal ability and reach the applicable level. That is, "digital + theory + business" is among the top three talents with compound professional knowledge and strong practical ability.

Second, the focus of the curriculum should be transferred in response to the training orientation of the job market. On the basis of retaining the core courses of financial accounting, colleges and universities should reasonably increase the proportion of management accounting courses. The knowledge points that overlap more between management accounting and other courses can be appropriately deleted or merged; the explanation and assessment of the unique knowledge points of management accounting should be emphasized. In addition, colleges and universities should accelerate the improvement and innovation of the management accounting course system, e.g., innovating the management accounting practical training teaching system and constructing a structure consisting of basic management accounting training (practical cases), postpractical training (project practice) and comprehensive training (enterprise practice), which is a three-stage progressive training model [9] that trains students' business analysis ability, leadership and interpersonal communication skills and promotes the integration of theoretical knowledge and practical experience.

Third, a new cross-disciplinary discipline of mathematics should be added to enhance the ability of the integrated application of mathematics. A qualified digital intelligence application-oriented management accounting talent training curriculum system must not only enable students to understand and master digital technology but also, more importantly, enable students to perform management accounting functions more efficiently and accurately through the use of digital technology. Therefore, it is necessary for colleges and universities to encourage the development of digital technology. Collaborate among disciplines to create emerging interdisciplinary disciplines of mathematics and sciences. These include big data financial analysis, the application of Python in management accounting, etc., to achieve the integration and improvement of professional ability and digital technology application ability.

Fourth, a training feedback adjustment mechanism should be established to dynamically update the curriculum system. Colleges and universities need to set up a training program research team. The team is responsible for regularly tracking and surveying the satisfaction degree and opinions of the on-the-job graduates and interns who have been engaged in major-related work within a certain number of years and carrying out numerical application based on this study. The iteration of the training curriculum system for management accounting talent ensures the dynamic and advanced nature of the training of numerically applied management accounting talent.

Fifth, iterate the teaching materials for the integration of cutting-edge technology and restore the new application business scenarios. Cutting-edge technology textbooks should achieve the organic integration of professional knowledge and application scenarios of cutting-edge digital technology. This goal can be achieved by investigating the relevant books on digital management accounting applications currently on the market edited by digital management accounting software development and consulting vendors and integrating and absorbing the latest digital technology-related theories and application status in the books, such as advanced textbooks. provides security.

4.2 Adopt a diversified and flexible teaching and examination model to promote the reform and innovation of teaching and assessment

First, the flipped classroom teaching mode was adopted. At present, colleges and universities still prioritize "crash-style" passive theory teaching, which is not conducive to improving students' independent thinking and problem-solving ability. Therefore, colleges and universities should subvert the traditional teaching model and innovate a new "student-centered" teaching model. A blend of online and offline teaching is adopted, and the teaching is carried out mainly in the form of case teaching. The cases should be able to show the application of the latest digital technology in the actual business of management accounting and simulate real business scenarios in the classroom so that students can learn more through simulation. Experience the enterprise business environment and improve its practical application ability. In addition, appropriate semester hours can be set up for sand table simulation practices in offline courses to cultivate students' business-finance integration thinking.

Second, multiple and flexible assessment methods should be developed. The multivariate assessment method is composed of two parts: procedural assessment and result-based assessment. The process assessment mainly included daily attendance, class performance, homework and group assignments, with the latter emphasizing the assessment of students' class participation and speech quality. The homework after class is mostly carried out on an individual basis, and the purpose is to master theoretical knowledge. Group homework is carried out in the form of a team, usually a case analysis presentation or a team competition, and the purpose of the group assignment is to assess the comprehensive ability of the students. The result-based assessment, that is, the final examination, can be in the form of paper-based examination, which examines the understanding and application of theoretical knowledge through case analysis; it can also take the form of computer-based examination, which examines the comprehensiveness of theoretical knowledge and practical ability of students through practical exercises. application.

4.3 Establish a "one engine, two drivers" collaborative education model and expand multidirectional channels for the convergence of resources

The coordinated education policy system should be improved to achieve the linkage and coupling of multiple subjects. The root causes of the failure of the current collaborative education mechanism to produce good results lie in the differences in the value orientation of the educators and the unclear boundaries of education responsibilities. In this regard, the government needs to play its organizational and coordinating role and formulate a sound policy for the collaborative training of numerically applied management accounting talent, such as a preferential performance appraisal system for training subjects, a funding support system for relevant scientific research projects, and an award system for excellent pilot projects, to encourage the cultivation of enthusiasm for the subject. Improve the top-level planning for the training of digital and intelligence-applied management accounting talent, clarify the responsibility boundaries of the training subjects, ensure that the training subjects each perform their duties, and promote the orderly progress of the training.

Second, the ecological construction of enterprise-school cotraining should be established, and a bridge for the mutual transfer of human resources should be built. The government provides policy support, and scientific research institutions provide intellectual support to promote the joint efforts of universities and enterprises to build a national cloud platform for management accounting personnel training. The training of digital intelligence application-oriented management accounting talent is formulated by university research teams as the mainstay, with the assistance of enterprise research departments and scientific research institutions. Enterprises and schools share platform resources, and colleges and enterprises are set as theoretical training bases and practice training bases, respectively, to promote the complementary training of enterprise further study personnel and college accounting students and to help the two-way improvement of the theoretical practice ability of current and premanagement accounting talent. In addition, enterprises can set up through trains for "excellent management accounting talent" in cooperative universities to achieve the accurate delivery of digital intelligence application-oriented management accounting talent.

4.4 To create a teacher training model of "endogenous students and external introduction" to construct a top-notch teacher team

At present, most college teachers specialize in professional theory and lack practical experience, and their understanding of digital technology is only at the theoretical level; thus, they are unable to integrate digital technology into accounting teaching. First, in response to the lack of practical experience, the "internal student and external introduction" teacher training model can be adopted, i.e., management accountants with strong digital technology application abilities can be introduced from the enterprise as practical mentors, and a periodic enterprise practical study system for on-campus teachers can be established to train on-campus teachers. Second, "Digital +" teacher training courses are set up to achieve the in-depth integration of teachers' "dual-professional skills" and "digital technology." Third, a mechanism for improving the ability of the teaching staff has been formed. Enterprise-school cooperation has implemented an embedded learning system in typical projects to guide teachers to actively participate in industry frontier forums, scientific research projects and competitions related to management accounting, to expose teachers to international frontiers of discipline, and to promote the integration of teachers' abilities and teaching innovation.

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