The Construction of an ESG Talent Development System for Digital New Business Disciplines in Universities from the Perspective of 'Dual Carbon'

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Abstract. Under the background of "double-carbon" goal and deep popularization of ESG concept, this paper focuses on the ESG talent training path of digital accounting professionals in colleges and universities from the perspective of "double-carbon", and will build an ESG talent training system for digital new business personnel in colleges and universities from the perspective of "peak carbon dioxide emissions carbon neutrality", promote the deep integration of ESG and digital accounting knowledge, consolidate professional basic ability, and sort out the differences in ESG ability weights of digital accounting personnel in different fields based on the characteristics of industry demand segmentation, so as to provide a basis for training accurate positioning. Strengthen the practical training of ESG business, and study the training system of digital accounting ESG talents that is suitable for the "double carbon" strategy, so as to provide reference for the teaching reform in colleges and universities and the supply of talents in the industry, and help the green and low-carbon development strategy to land.

Keywords: ESG, dual carbon goal, digital technology.

1 Introduction

In 2020, China clearly put forward the dual-carbon goal of "carbon dioxide emissions will reach the peak by 2030 and strive to achieve carbon neutrality by 2060", which indicates that China's economic and social development has entered a critical stage of green and low-carbon transformation[1]. Under this background, ESG concept, as the core yardstick to measure the sustainable development ability of enterprises, has gradually changed from the voluntary disclosure requirement of capital market to the core basis of enterprise management decision[2].

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2 Analysis of the Core Competencies and Demand for ESG Talent in Digital New Business under the 'Dual-Carbon' Perspective

2.1 Integration of ESG and Digital Accounting to Enhance Core Professional Competence

ESG professional application ability is the core competitiveness of talents to meet the needs of the industry, focusing on ESG accounting practice ability under the goal of double carbon [3]. Specific courses include carbon cost accounting and management, green investment and financing evaluation, ESG performance evaluation, ESG report preparation, etc. This dimension needs to realize the deep integration of digital technology and ESG practice. Through the evaluation of ESG report preparation quality, green project financial evaluation accuracy and carbon cost accounting accuracy, the core of social literacy of ESG digital accounting course is to cultivate accountants with high social responsibility, be proficient in digital accounting business ability, and demand ESG output talents for enterprises.

2.2 Characteristics of ESG Talent Demand in the Industry

Focusing on the core demand of "deep integration of ESG professional knowledge and accounting core competence", the evaluation system of ESG accounting talents in colleges and universities from 2021 to 2025 is selected as the research sample, and an evaluation model is constructed. The ability weight of "digital ability 30%+ESG ability 40%+professional ability 20%" is generally implemented in teaching, and the proportion can be adjusted in teaching for different training needs of specialized talents. As shown in the Table 1, It is necessary to abandon the "one-size-fits-all" model in talent training in colleges and universities, and provide personalized training programs for students' career planning, so that students with different development directions can recommend suitable courses, practical projects and paths to improve their abilities, so as to realize the accurate docking of training and demand.

Table 1. ESG Capability Indicators.

Indicator	Definition	Quantitative approach
Digital literacy	It is a multidimensional comprehensive ability system.	Proficiency in Using Digital Tools
ESG capabilities	Comprehensive performance Capabilities in areas such as environment, society, and governance	Interpretation of the Dual-Carbon Policy and Understanding of ESG Concepts and ESG Information Disclosure Standards
Professional competence	The level of knowledge, skills,and experience possessed in a specific field	Ability to address ESG financial and accounting issues

Total Competency of Financial Talent = Digital Competency 30% + ESG Competency 40% + Professional Competency 20% (1)

In the above formula, the proportions for 'digital competency, ESG competency, and professional competency' naturally vary according to the talent development needs of different industries[4].

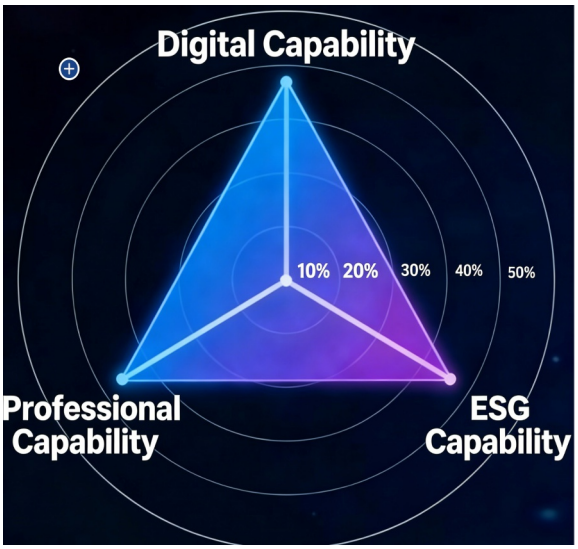

Fig. 1. Proportion of Various Competencies of Financial Talent.

As shown in the Fig. 1, Based on the company's requirements for competency development, the data proportions of each financial talent skill can be adjusted in a timely manner, providing personalized training plans for both companies and students. By adjusting the competency proportion chart (Figure 1), the direction of talent demand for the company can be clearly understood.

2.3 ESG Financial Business Training

ESG financial business training will cover dimensions such as environmental (E) risk factors, social (S) risk factors, and governance (G) risk factors. From an environmental perspective, finance courses will incorporate environmental factors in teaching, considering the interaction between companies and the natural environment, as well as the impacts of policy regulations, climate change, and resource constraints on businesses[5]. From a social perspective, finance courses will introduce teaching points such as corporate product liability and consumer rights risks, social responsibility risks for financial personnel, and labor rights and employee management risks. From a governance perspective, finance courses will offer practical training in areas such as "corporate governance structure risks, shareholder rights protection risks, and information disclosure transparency risks" as part of daily business training.

$$ESG = E + S + G + \varepsilon_{i,t} \quad (2)$$

As shown in the Fig. 2, In the above formula, Erepresents environmental risk factors, S represents social risk factors, G represents governance risk factors, and $\varepsilon_{i,t}$ represents the risk error. Assigning different values to E, S, and G allows for the analysis of environmental, social, and governance factors. From the E perspective, the focu is on green investment assessment and environmental risk quantification training; from the Sperspective, it emphasizes stakeholder relationship management and social responsibility performance; from the G perspective, the focus is on optimizing corporate governance structures and strengthening core internal systems. The $\varepsilon_{i,t}$ business training point focuses on improving data quality and correcting model errors. Therefore, in cultivating accounting talents in the context of the new business discipline, it is important to integrate digital and ESG teaching concepts. By adjusting the proportions of these factors, Figure 2 clearly shows which risk factors have a greater impact, providing guidance for accounting talent development and thereby enhancing accountants' digital application and ESG analysis capabilities.

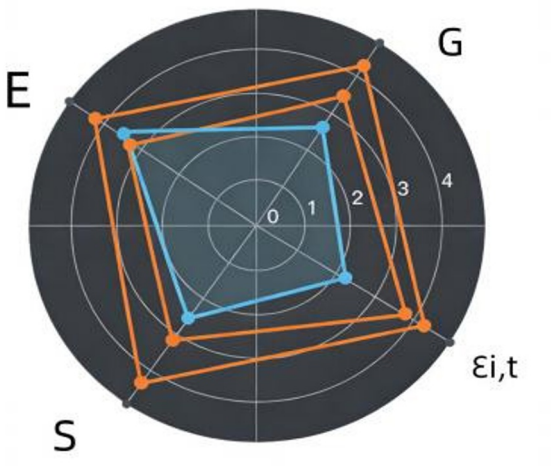

Fig. 2. Considerations for ESG Financial Business Training.

2.4 Build a Modular Integrated Curriculum System

Around core competencies and differentiated training objectives, establish a modular curriculum system consisting of 'Basic Module + ESG Module,' with courses in each module interpenetrating and dynamically optimized to provide rich course resources. The Basic Module: strengthens fundamental skills, divided into two sub-modules: accounting fundamentals and green fundamentals. The ESG Module offers courses such as "Corporate ESG Financial Performance Evaluation," "Dual- Carbon Policy and Industrial Transformation," and "ESG Basic Theory," cultivating ESG and dual-carbon conceptual literacy, and ensuring that both foundational abilities and ESG application capabilities meet standards[6].

2.5 Student Competency Development Based on Industry Needs

Aligning with industry demands, develop a three-level practical system of "on- campus training, corporate internships, and competition projects." On-campus training relies on the digital accounting ESG training platform for hands-on exercises such as carbon cost calculation simulations[7], ESG report preparation training, and green investment and financing project simulations, enhancing students' digital application and ESG application capabilities.

2.6 ESG Accounting Talent Assessment

ESG accounting talent is evaluated based on four core dimensions: 'dual-carbon, digital, accounting, and ESG,' integrating digital and ESG analytical skills [8]. As shown in the Fig. 3, The principle of industry adaptability provides a solid talent support foundation for promoting high-quality ESG financial work in enterprises. By matching talent to needs, ESG financial work can be implemented compliantly, helping enterprises achieve a win-win for ESG and financial performance and enhancing long-term competitiveness. ESG accounting talent, as a keylink connecting corporate ESG strategies with financial systems, requires an assessment system that breaks through traditional accounting talent evaluation frameworks, focusing on the core demand of "deep integration of ESG expertise and accounting core competencies." The ESG accounting talent assessment systems of universities from 2021 to 2025 were selected as research samples, and models were constructed based on a review of relevant journa.

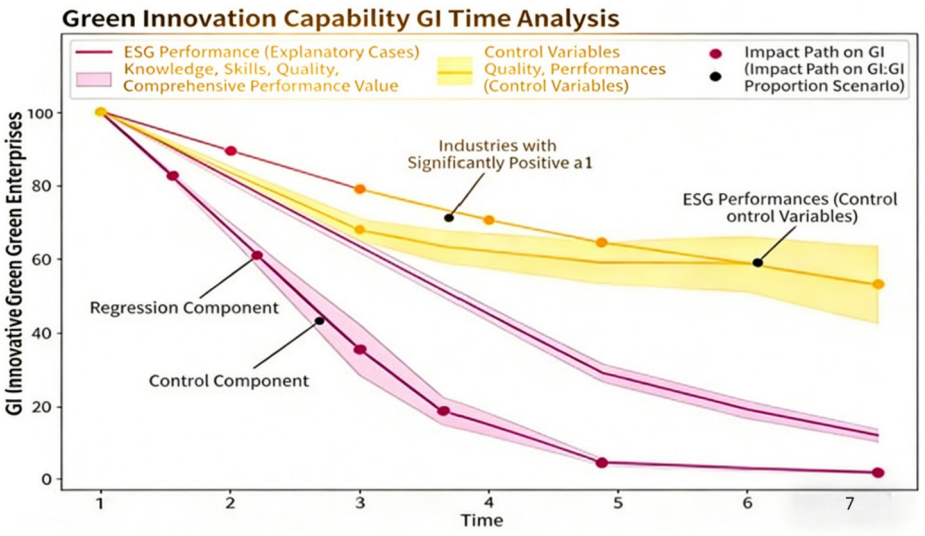

Fig. 3. Analysis of Color Innovation Capability GI Over Tim

$$GIi,t=a0+a1ESG+a2controlsi,t+Ɛi,t \quad (3)$$

As shown in the Table 2, In the above formula, GI is the dependent variable, namely the enterprise's green innovation capability, which is the dependent variable in this paper; ESG is the independent variable, namely the enterprise's ESG performance; a0 is the baseline evaluation value, Controli, t represents all control variables (a composite value of knowledge, skills, iteracy, and performance); εi,t represents the error term, where industry and t denotes time; a is the regression coefficient. If the regression coefficient a1 is significantly positive, then Hypothesis (2) is verified.

Table 2. ESG Finance and Accounting Talent Evaluation Indicators.

Symbol	Variable Type	Definition	Quantitative approach
GIi,t	Dependent variable	Comprehensive ESG capability index for digital finance and accounting personnel in universities, where i represents the university sample and t represents the academic year	Indicator composition: students' ESG knowledge and scores from practical project participation assessment
a0	Intercept	The baseline value of the dependent variable when all independent variables are 0	The baseline level of ESG capabilities of digital finance personnel in the absence of ESG training initiatives and controlling variable influences
ESG	Core explanatory variable	Investment in ESG Talent Development in Universities	The proportion of ESG-related courses in the total professional credits
a1 a2	Regression coefficient	The degree and direction of the variable's influence	a1 is significantly positive, indicating that ESG cultivation measures in universities have a positive effect on the ESG capabilities of digital accounting personnel, while the sign of a2 reflects the impact effect of the control variables.
Ɛi,t	Random perturbation term	Other random factors not included in the model	Such as sudden policy changes or the unique experiences of individual students, these are error terms.

3 Conclusion

Based on the three-dimensional core competence framework of digital accounting ESG talents from the perspective of dual-carbon, this paper provides new ideas for the training of digital accounting ESG talents in colleges and universities, but there are still some limitations. With the continuous iteration of digital technology and the deepening of dual-carbon policy, it is necessary to further promote the dynamic upgrade of training system and algorithm model, and continue to export compound ac-

counting ESG talents with green literacy, digital ability and professional skills, so as to provide solid talent support for the realization of dual-carbon goals and green economic transformation in China.

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