

Study for Innovative Contents of Accounting Professional Education in Circular Economy

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Abstract. With the help of theoretical analysis, this paper systematically discusses the limitations of accounting professional education for various accountants in the current situation of circular economy and the reasons for its formation. Combined with the characteristics of accounting in circular economy, and based on the correlation of circular economy, the innovative connotation of professional accounting education in circular economy is proposed. According to the viewpoint of this paper, four innovative contents should be added to the contents of accounting professional education, including complement of innovative disclosure form of accounting information, enrichment of concept of natural resource assets, improvement of innovative accounting methods and enlargement of innovative connotation of accounting cost. This paper will provide a reference for the innovative contents of accounting professional education in circular economy.

Introduction

World economy is developing at great speed, every country is being confronted with the problems of resource exhaustion, environmental pollution and ecological damage, so it is urgent for every country to develop circular economy, and China has made strategic programming for the development of circular economy [1]. From the viewpoint of accounting, traditional contents of accounting are based on linear economics [2] so traditional accounting takes enterprise as a individual system, it only cares about the operating status and financial achievement of the enterprise itself, but neglects the influence of business operation on natural environment and society. The rapid development of circular economy in western developed countries puts forward innovative challenges for the present contents of accounting professional education, this paper makes a brief discussion about the influence of circular economy on the present contents of accounting.

Main Differentiation of Accounting System in Circular Economy

Different Users of Accounting Information

The information users of traditional accounting are mainly enterprise investors and creditors; while the main users of accounting information in the environment of circular economy, in addition to business owners and stakeholders, also include relevant government departments, especially the environmental protection and the tax inspection department. According to the accounting information provided by the company, the government can understand the company's investment in environmental pollution control and renewable resource recovery; therefore, they can use this to formulate macroeconomic policies to punish or encourage enterprises. In addition, the external investors of the enterprise must understand the situation of the company's fulfillment of environmental protection responsibilities, as well as the direct return and tax advantages of

converting pollutants into renewable resources based on information of circular economy, in order to estimate the development prospects of the enterprise and determine the investment behavior.

Different Accounting Entities

Only by establishing the concept of adapting to the economy can enterprises achieve long-term existence and stable development in the innovative economic environment, the following is reasons.

Firstly, the survival and development of any enterprise cannot be separated from the social environment and the natural environment. The social environment is the institutional basis for the aim of survival and development of enterprises, and the natural environment is the material basis also for this aim. Enterprises should adapt to the social environment as much as possible, and seek the best investment environment, financing environment, market environment and policy environment to achieve long-term existence and stable development. From another perspective of development, the existence and development of enterprises also need resources from the natural environment, because the expansion and development of the enterprise requires natural resources as a support, while at the same time discharging the generated waste into the environment, if there is no lasting and stable nature resources as the material basis of the environment, it is impossible for enterprises to achieve long-term existence and stable development.

Secondly, the disclosure of circular economy information, especially the disclosure of resources and environmental information, will enable responsible companies to obtain good image and market returns in the public, capital markets and product sales markets, while also stimulate the enterprises with bad environmental behavior to improve environmental pollution control and improve environmental behavior [3]. Effective information disclosure of enterprises can not only reduce transaction costs, but also improve the efficiency of resource allocation. The more fully the information disclosure of circular economy, the more obvious the environmental protection behavior of enterprises.

Different Forms and Methods of Accounting Information Disclosure

Forms of Accounting Information Disclosure

The main form of traditional accounting information disclosure is financial statements, together with annotations to financial statements and text notes. While in circular economy, there is much non quantitative information; accordingly more practical things are used to disclose the environmental information of enterprises, and more annotations and text notes are needed. The format and content of financial statements should be reformed, financial statements and reports that reflect the information of circular economy should be added, for example, table of return from renewable resources, report of resource environment responsibility.

Methods of Accounting Information Disclosure

In traditional accounting, monetary measure is used, but in circular economy accounting, both monetary measure and non monetary measure should be used. Because resource asset comes from the long-time accumulation of nature, there is no human labor in it, it is impossible to make sure its value according to the method of social labor productivity, hence, its value should be determined by the method of indirect calculation. Further more, the regeneration period of natural resources are different, there is no uniform standard. The combination of monetary measure and non monetary measure will provide more integral and accurate information.

Different Presuppositions of Accounting Theory and Practice

Sustainable development is the presupposition of theory and practice of accounting in circular economy. Accounting in circular economy should check and supervise the economic activity of enterprise, reflect the energy exchange and value transfer between enterprise operation and environment on the basis of sustainable development of human society. The theory of circular economy is the presupposition and basis of the establishment and development of environmental accounting. The accounting in circular economy is based on the long-term co-existence and mutual

benefit between enterprise and environment; it attaches importance to the sustaining operation of enterprise under the presupposition of good circulation of resources. Without the sustainable development of natural environment, the operation of enterprise will be difficult, and there will be no necessary and basis for the existence of accounting.

Main Imperfections of Current Contents of Accounting Professional Education

Insufficiency of Attention to Renewable Resources

The topics of circular economy are not mentioned in the current contents of accounting professional education, specifically, the accounting information of business activity in circular economy is not disclosed thoroughly, the accounting cycle is not integral, but the assets of natural and renewable resources, relating responsibility and expense are not calculated and checked fully, the benefit or loss of enterprise are not confirmed, and the benefit brought by renewable resources are not calculated and checked thoroughly. The current teaching contents of accounting only involve a linear process from resource environment to product realization and economic benefit. It is not aware that economic operation is closely related to the natural environment, neglecting the impact of resources and environment to enterprises and the impact of enterprises on the natural environment, ignoring the material replenishment process of the environment itself and the environmental responsibility of the company. Specifically, the current contents of accounting professional education does not bring up natural and renewable resources as assets, does not confirm social responsibility, safety production responsibility and environmental protection responsibility as corporate liabilities [4].

No Information of Circular Economy Included in Current Accounting Sheets

Some relating circular economy information cannot be disclosed because some technical problems in the current accounting information disclosure cannot be solved completely, This information includes the scope of renewable resources, technical standards, validation conditions, cost and risk accounting for resource information disclosure, inspection of information disclosure behavior, auditing standards, and losses due to environmental information disclosure distortions.

Suggestions for Innovative Contents of Accounting Professional Education

Complement of Innovative Disclosure Form of Accounting Information

The circular economy is completely different from the traditional economy. It changes the open material cycle, that is, the traditional economic development model of “resources-products-waste”, to close the material cycle, that is, the innovative development model of “resources-products-renewable resources”. To achieve “low exploitation, full utilization, low emissions”, maximize the use of system materials and energy, improve resource utilization, minimize pollutant emissions, improve economic operation quality and efficiency, and protect the ecological environment. The era of circular economy puts forward higher requirements for accounting professional education. Accounting information should be true, accurate, timely, convenient, applicable and practical, not only to reflect the actual situation, but also to predict the future. Work of accounting should not only provide internal information, but also provide relevant external information; there should be monetary information and non-monetary information, which are the reporting forms of accounting “products”. To change the current single pattern, the contents of renewable resources should be disclosed in the reporting system and in accounting professional education to meet the needs of the circular economy. The accounting information in circular economy is the information about the operation behavior and environmental work of enterprise, and their influence on finance. The forms of accounting information are diversified; there are qualitative information and quantitative information, monetary information and non-monetary information, such as things and technology. Hence, the following principles should be paid attention to when choosing the contents of accounting professional education: firstly, the least amount of relating information that should be disclosed will be prescribed

by accounting system; secondly, the mechanism for enterprise to disclose information voluntarily should be established; thirdly, the resource accounting information and the financial information should be combined, Only when these innovative contents of accounting reform in the circular economy are added to accounting professional education can the professional education truly match the innovative environment of circular economy.

Enrichment of Concept of Natural Resource Assets

Circular economy requires social and economic sustainable development, so natural resources should be used effectively. For a long time, the accounting of resources was not good enough. *China Accounting Standard No. 27 - Exploitation of Petroleum and Natural Gas* is a good example of accounting for natural resource assets, and the release of IFRS 6 *Exploration for and Evaluation of Mineral Resources* also has been used to harmonise accounting practice [5]. But accounting for other resources has not yet begun. From the perspective of circular economy, there is an urgent need to calculate and utilize resource assets well, and to strengthen the concept of natural resource assets in accounting professional education. According to modern accounting, assets refer to resources that are formed by the company's past transactions or various matters, which are owned or controlled by the enterprise and are expected to bring economic benefits to the enterprise. Natural resources are assets, whether natural or human-processed, depletable or renewable. Therefore, natural resources have property rights and values, so it is necessary to calculate and control natural resources. The accounting of natural resource assets should be carried out simultaneously on both the macro and micro levels. Therefore, only the participation of enterprises, as microeconomic organizations, can realize the true meaning of natural resource asset accounting. In addition, in order to make better use of natural resource assets, to measure the standards of resource utilization, the cost accounting system and periodic analysis and evaluation system for controlling resource utilization should be constructed to achieve rational use of natural resource assets and improve resource utilization efficiency. Furthermore, in order to maximize the efficiency of natural resource utilization, the design of the accounting system should cover both physical records and monetary records, and the cost of obtaining natural resources should be displayed separately in the relevant accounting reports. In the long-term decision-making of production management and investment, the price trend of future natural resources should be effectively estimated by the amount of natural resources already consumed. The use of clean energy and renewable resources should also be emphasized, and effective measures should be taken to promote the recycling of consumed natural resources and energy. Only by this way, the effect of promoting social and economic prosperity and development with minimal natural resource development and at the lowest environmental protection cost can be achieved. It can be seen that accounting professional education is inseparable from the strengthening of the concept of natural assets.

Improvement of Innovative Accounting Methods

The accounting method is used to reflect and supervise the accounting objects, complete the accounting tasks, and give full play to the accounting role. The main contents of accounting methods generally include accounting methods, accounting analysis methods, accounting inspection methods, accounting forecasting methods, accounting decision methods and accounting control methods. These methods are relatively independent, interconnected, and work together to form a unified method system. Among them, the accounting method is the most important basic method in the whole accounting method system. In circular economy, the center of accounting should be changed from resource consumption to calculation and reuse of resources, and the biggest obstacle for that is the Non-applicability of accounting methods. The traditional accounting methods can not accommodate the development of circular economy, so it is necessary to reform in the accounting methods. The social substances are multiple, if only one accounting method is used, accounting will be bogged down. Hence, multiple accounting methods should be introduced into accounting system and in accounting professional education.

Enlargement of Innovative Connotation of Accounting Cost

In the innovative economic environment, every step of accounting cost control should be related to the recycling of resources. Because the daily production and operation of the enterprises is closely related to the resource consumption, but the resources owned by the enterprises are limited. In order to solve the problem of limited resources, firstly, it is necessary to construct an effective special resource cost control system and a feasible overall budget for the enterprise with reasonable resource prices, strict energy-saving standards, timely differential analysis and other links to achieve effective cost management. Secondly, with the development of network and computer technology, artificial intelligence and big data technology in resource recycling are introduced into accounting information system and cost management system. These artificial intelligence and big data technologies will help managers on analyzing and controlling resource cost, saving energy, reducing consumption, and achieving the goal of improving the efficiency of resource utilization. In addition, the cost of individual special enterprises must also be included in the cost control system. For example, the resources consumed by enterprises in high-dangerous industries to prevent production accidents should be listed as safety costs [6]. All the above-mentioned innovative aspects of cost should be reflected in the professional education of various accountants.

Summary

The development of accounting theory is comprehensive system engineering; the components of accounting theory will give innovative meaning according to the requirements of circular economy. The current accounting theory is the product of linear economy. The objectives, methods, management systems and standard systems of current accounting theory can no longer meet the needs of the development of circular economy. These restrictions will also appear in accounting professional education. Hence, accounting will take on the task of calculating the input and output of enterprises in the new economic conditions, confirming the responsibility of resource usage, calculating the relating expense, revenue and loss to get renewable resources, furthermore, it should provide real and credible accounting information about the resource utilization efficiency for enterprise to realize their objectives. Therefore, these innovative contents above-mentioned by this paper should be reflected in the accounting professional education of various accountants.

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