**1648** (2020) 032173 doi:10.1088/1742-6596/1648/3/032173

# Research on the Innovation of Resource Value Cost Accounting Based on Circular Economy under Big Data Technology

# Ying Xiong<sup>1,\*</sup>

<sup>1</sup>Yunnan Technology and Business University, Yunnan, China, 650700

\*Corresponding author e-mail: 94058851@qq.com

**Abstract.** How an enterprise develops its own strength and can realize the future development trend of the enterprise in the context of so severe social and economic competition, will inevitably involve the use of resources in the process of competition. As a product of commodity economy, cost seriously affects the value of commodities under big data technology. To ensure the effective use of enterprise resources, cost accounting is an indispensable part of the production operation process. The simple cost accounting method cannot meet the current rapid development environment. As a new cost accounting innovation method, resource consumption accounting can more systematically and more effectively maximize resources.

**Keywords:** Cost Accounting, Resource Consumption Accounting, Innovation, Big Data Technology

#### 1. Introduction

With the continuous development of the economy, the changes in the manufacturing environment of enterprises have not only faced the impact of the domestic market, but also the impact of foreign markets. In this reality, modern cost accounting shows its drawbacks, and the market operation process requires cost accounting innovation and reform. Resource consumption accounting is the innovation and development of cost accounting. Research and discussion of resource consumption accounting can play a very positive role in the innovation of future cost accounting<sup>[1]</sup>.

# 2. The shortcomings of cost accounting

#### 2.1. Cost accounting positioning

Traditional cost accounting requires centralized management of various costs, and the concept of cost accounting is outdated. The emphasis is on product costs (labor costs, direct material costs, manufacturing costs) in economic operations, and other considerations are less. At present, the

Content from this work may be used under the terms of the Creative Commons Attribution 3.0 licence. Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.

Published under licence by IOP Publishing Ltd

**1648** (2020) 032173 doi:10.1088/1742-6596/1648/3/032173

economic cost is no longer a single product cost statistics. The resource loss (equipment depreciation expense, inventory), labor idle, etc. in the production process has also become one of the cost accounting contents. However, it cannot be effectively and effectively reflected in traditional cost accounting. The information is not accurately reflected and does not reflect the true cost of the product<sup>[2]</sup>.

### 2.2. Information update

# 2.2.1. Traditional cost accounting pays attention to historical cost attribute in information

Although historical cost attribute has objectivity and is an important link in the operation of market economy, with the development of economic globalization, the enterprise industry chain is continuously extended and touched. It is also growing. The intangible assets are changeable, the related production methods are complex and changeable, and the cost information of the enterprises is correspondingly diverse and complicated. The original cost accounting cannot reflect the consistency of current economic development.

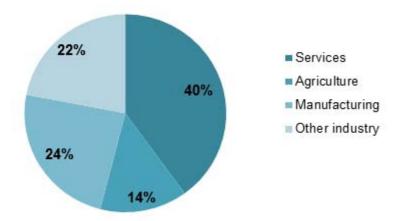


Figure 1. Relationship statistics between information update and cost accounting.

# 2.2.2. Under the operation of the market economy, the value of commodities is not fixed

Cost accounting cannot timely and effectively calculate the current cost value. For example, the raw material purchased in 2008 was 100,000 Yuan. When the price of the material rose in 2010, the amount reflected on the book was 100,000 Yuan, which underestimated the cost of the material [2].

2.2.3. The fixed assets required by the enterprise in production operations are not fixed as the economy develops

The corresponding depreciation expense also changes. Depreciation expense is a part of cost, which affects the accuracy in the cost accounting process.

2.2.4. The general value of the product changes with the associated costs and book costs, also known as net variable value

Under the premise that the related expenses are uncertain and the book cost cannot guarantee its accuracy. Net changeable value cannot change with the market, which will cause the company to face market shocks.



**1648** (2020) 032173 doi:10.1088/1742-6596/1648/3/032173

2.2.5. The present value of future cash flows takes into account the amount, time distribution and uncertainty of cash flows

Cost accounting cannot truly reflect the essential attributes of assets and liabilities as "acquisition or sacrifice of future economic benefits".

# 3. The significance and ideas of cost accounting innovation

# 3.1. The significance of cost accounting innovation

The trend of economic competition and development will inevitably lead to another leap in the competition of commodity competition. In order to achieve cost calculation and planning management of unit work, commodity enterprises will increase the emphasis on cost accounting. In the end, the popularity of technology will be realized, and the mutual assistance mode will be realized on a large scale. In the process of commodity economy, cost accounting can achieve control over cost estimation, control, and research. In the management work, only by being able to clearly understand the surrounding competitive environment can we make progress in the ever-changing and developing economic society and adapt to the economic development. In the transformation of economic development, cost accounting must face reform and innovation [3].

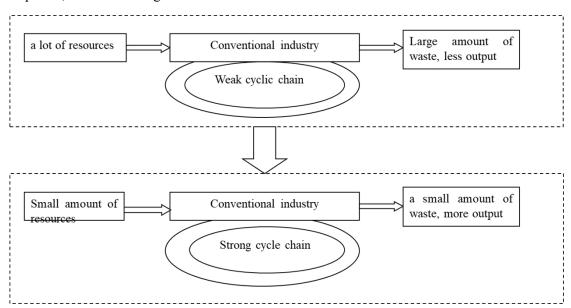


Figure 2. The cycle system of cost accounting innovation.

Therefore, only the way of understanding the cost accounting can analyse the consumption of cost resources. The changes in cost accounting are mainly reflected in two aspects: first, the updating of cost accounting techniques and methods; second, the use of cost accounting is becoming wider and wider.

#### 3.2. The idea of cost accounting innovation

# 3.2.1. Innovation of management ideas

Enterprises should break the traditional concept of cost management and modernize management of cost accounting. If the cost is reduced blindly, it will inevitably lead to the decline of product quality



**1648** (2020) 032173 doi:10.1088/1742-6596/1648/3/032173

and efficiency. Therefore, enterprise accounting personnel should change from ideological. Then, manage the cost of the enterprise and control the cost from the whole process to the whole.

# 3.2.2. Expanding the scope of accounting for cost accounting

Cost accounting should establish the business records of the actual economic business objects of the fundamental enterprise, thereby clarifying the cost of the enterprise and increasing the reliability of the enterprise cost management. At the same time, the cost accounting personnel should also take timely measures in various ways to calculate the costs and expenses of each department and team, thus implementing the plan to control the cost.

# 3.2.3. Accounting method of innovation cost accounting

Traditional cost accounting methods include setting accounting subjects, registering books, calculating costs, preparing accounting statements, etc. With the development of science and technology, the cost share of service value is increasing, enterprises want to To compete, you need to increase the development and innovation of knowledge. Therefore, the accounting method of cost accounting should be continuously innovated, using advanced information technology to select more reasonable accounting methods, and further improve the traditional accounting method to avoid the increase of accounting costs<sup>[2]</sup>.

# 4. The inevitability and applicability of resource consumption accounting under cost accounting innovation

# 4.1. The inevitability of resource consumption accounting

Resource consumption accounting is different from original cost accounting. Distribute and classify according to the different nature of resources, and carry out cost decentralized management. Enable staff to be effective and quick when planning enterprise resources.

$$V = \sum a_i A_i + \sum b_i B_i + \sum c_i C_i$$
 (1)

$$R_j = y_j / \sum y_j - V_j / \sum V_j$$
 (2)

The resource consumption accounting has a wide range of objects, which not only categorizes the internal consumption cost of materials in the daily production process, but also takes into account external management costs, such as labour idle value and inventory loss value. Make the cost more precise and greatly improve the accuracy of cost accounting. For some long-term idle semi-finished materials and their over-produced products become available. Make the accounts clearer. Resource consumption accounting will decentralize management of costs, enabling management to grasp the current situation more timely and accurately, and facilitate decision-making [3].

# 4.2. Applicability of resource consumption accounting

The person in charge of the company believes that it bears unnecessary costs such as: idle labor, long-term storage of inventory, and so on. In the long-term development, the internal personnel of the company push each other out and cannot guarantee the rapid and effective solution of the problems in the production process. The resource consumption accounting can effectively prevent this problem from happening, the costs are more detailed, and the cost information is divided according to different natures. Planned production is not directly proportional to the actual cost of ownership of the



**1648** (2020) 032173 doi:10.1088/1742-6596/1648/3/032173

**IOP Publishing** 

enterprise. Internally, the company cannot obtain effective data on the resources, which in turn generates labor idle costs in the production process, potentially amplifying the cost of the product in the production process. Recyclable semi-finished materials cannot be correctly calculated on the basis of lack of resources. Resource consumption accounting can reflect the recyclable finished materials in the enterprise resources, realize the secondary utilization of materials, reduce the product cost, and maximize the benefits for the enterprise<sup>[5]</sup>.

#### 5. Conclusion

With the rapid development of computer globalization and the intensification of market competition, cost accounting has become an indispensable part of the operation of the market economy. However, the traditional cost accounting cannot adapt to the trend of social development. In order to make the benefits bigger and the resources fully utilized, it is indispensable for the innovative reform and development of cost accounting<sup>[6]</sup>.

#### References

- [1] Jin Y T, Yang F, Shao R. Research on the innovation of drug circulation business model-based on the European Union drug circulation supervision system[J]. Health Economics Research, 2018.
- [2] Liu G. Research on Innovation of the Circulation Model of Fresh Agricultural Products Based on Farmer Cooperatives[J]. Journal of Business Economics, 2017, 87(1):113-20.
- [3] Yang L J. Study on the Relationship Innovation of Circulation Industry Based on Supply Chain Collaboration[J]. China Business & Market, 2016, 124(2):181–187.
- [4] Hyun-Sun Ryu, Jae-Nam Lee Understanding the role of technology in service innovation: Comparison of three theoretical perspectives[J]. Information & Management, 2018, 55(3).
- [5] Eelko K.R.E. Huizingh. Moving the innovation horizon in Asia[J]. Technovation, 2017, 60-61.
- [6] Gary Chapman, Nola Hewitt-Dundas. The effect of public support on senior manager attitudes to innovation[J]. Technovation, 2018, 69.



Reproduced with permission of copyright owner. Further reproduction prohibited without permission.

