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Trend of Applying Cost Management Accounting in the World

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Abstract

Humanity is currently facing human health problems, environmental degradation and resource depletion. Businesses need to conduct environmental impact assessments, develop and deploy environmental treatment solutions. To do that work, many types of costs inevitably arise on an increasingly large scale related to the environment, handling environmental impacts and improving environmental quality. The requirement for administrators is to have more information about costs related to the environment that arise. Therefore, the application of environmental cost management accounting is an inevitable trend, considered an important and necessary tool to meet the above requirements.

Keywords: Application, Management Accounting, Environmental Costs

1. History of formation and development of environmental cost management accounting

Socio-economic development leads to the formation of demands for accounting and management accounting. In each stage of its development, management accounting in the world has changed from primitive forms to today's modern and complex methods to effectively perform production process management activities. enterprise's business while paying attention to consider and solve problems that arise in the relationship between management accounting and the environment.

During the period from the early 18th century to the 1950s: Before the industrial revolution took place in Western Europe and North America in the late 18th and early 19th centuries, the economy was simple, the main production facilities were Mainly small scale, based on manual labor, accounting at this time was simply recording numbers.

When the second industrial revolution took place immediately afterward in the second half of the 19th century and the beginning of the 20th century, production increased rapidly, on a large scale with increased labor productivity, and increased output creating conditions for the development of many industries, starting with the development of commodity production in the textile industry. Then, with the need to provide machinery and energy for the textile industry, iron and steel processing techniques were improved and coal was used in large quantities. Developing trade led to the birth of traffic canals and railways, besides, traffic road major upgrades to facilitate transportation development. Coal-fueled steam engines and mechanically driven machinery led to a dramatic increase in labor productivity. This creates new challenges for management as well as accounting needs. Especially after the British industrial revolution, although production increased sharply but business profits decreased, people began to pay attention to management accounting as a technical method of determining and allocating costs. production costs to calculate the cost of manufactured products, cost of goods sold and estimate production costs to provide financial information for administrators to control costs and orient production.

Thus, in this period, the appearance of management accounting is not clear. In the early days, accounting was only seen as recording data. Since the British Industrial Revolution, accounting has advanced one level because production activities have expanded in both business fields and scale., output and space. It is not until the business does not bring high economic efficiency that managers pay more attention to accounting. Management accounting appears in the form of cost accounting.

The period from 1950 to 1965: more diverse business sectors appeared with more complex and competitive nature. In the 1960s, efforts to design and develop the fastest possible computer with the greatest power reached a turning point with the completion of the LARC and Stretch computers and the introduction of Moore's Law (1965). is a driving force stimulating the development of electronic technology, contributing to supporting production and business activities.

Production and business activities become more diverse and complex, output products and input materials also become richer, giving rise to indirect costs and high support costs, requiring Managers must find a way to allocate costs to products appropriately. To do so, managers need cost information to compare products that are not similar or even completely different.

Traditional cost measures cannot meet this requirement, thus inevitably leading to a major change in calculating and measuring the effectiveness of using different input factors. Managers have carefully studied the work process to recalculate and redesign input factors such as labor and the amount of materials needed. At the same time, it simplifies complex technological processes into a simple process chain for easier control. They set standards for products (standard material costs, standard labor costs...) are used to prepare estimates, which will then be compared with actual costs incurred.

The period from 1965 to 1985: Information technology had many new advances. Computer systems are designed and installed to suit each type of business. Accounting has an automatic tracking system, payroll, accounts receivable and payable tracking, and cost tracking.

This period produces many new products with short life cycles and high competitiveness, creating requirements for good and timely inventory management. To improve product quality, managers have established a quality control system, this work is carried out from the input stage to minimize risks at the output stage.

Just in time inventory management system emerged: The amount of inventory stored must be moderate to ensure timeliness so as not to interrupt production activities, while ensuring that the amount of inventory is not too high. much to avoid capital backlog or reduce inventory quality. Applying information technology to manage inventory, determine prices, and notify managers when to order helps managers set the optimal reserve level for inventory and when to place orders. Reasonable.

The production trend of this period is to produce high-tech products with short life cycles and determining selling prices is not only based on production costs but also on market demand. Therefore, the goal of management accounting in this stage is to reduce resource waste in the production process.

Period from 1985 to present: Manufacturing and information technology have achieved unprecedented progress. At this time, businesses' activities not only focus on normal production and business activities but also must conduct market and customer research, the purpose of which is to produce products with the value customers need, Sell what customers need, not what the business has.

The management of production and business activities in this stage focuses on resource management, aiming to minimize loss and waste of resources and preserve or utilize them in creating value.

The focus of management accounting shifts to value creation through the efficient use of resources. Cost and management accounting innovations in the 1990s can be identified as: business restructuring, quality function implementation, staffing, *gainsharing*, core competencies, competition based on time and research organization.

2. Trend of applying environmental management accounting in the world

In the last two decades, the environment has been a global issue. Environmental research around the world has shown that the environment not only has a serious impact on human health, but the adverse effects of the environment can also reduce the economy. A typical example of the impact of environmental pollution on the country's economy is that every year 3% of China's GDP is lost due to air, water and soil pollution.

Faced with these influences, the requirements for awareness and social responsibility of businesses towards environmental issues are increasingly increasing. From there, a problem arises: how and how to determine the level of responsibility of businesses towards the environment, specifically how to account for and manage factors related to environmental pollution. environment and widely popularize environmental accounting as well as environmental management accounting.

Environmental management accounting was first officially discussed on an international forum in 1998 at the regular session of the United Nations Security Council on sustainable development. Since then, environmental management accounting has become popular in many countries around the world. Environmental cost management accounting was born with a series of its applications to meet the above requirements. Typical environmental cost management accounting applications in the world include:

Table 1: Summary of typical environmental cost management accounting applications in the world

Application name	Implementing agencies	Project content
Minimize business waste and environmental costs	-Austrian Ministry of Agriculture and Forestry, Environment and Waste Management -Partners: Institute of Economic Environmental Management and Graz University of Technology	- Access biological production programs to bring economic efficiency combined with technologies that minimize environmental costs such as treatment and landfill costs, labor costs, and other costs. External services, financial costs of investment in the environment... -Bringing Austrian companies gradually closer to new standards such as ISO 14001
Applying the EMA framework in local government (period 1995-1996 and 1998-1999)	The Australian Bureau of Local Government (NLOG), the Australian Bureau of Statistics (ABS), the Australian Department of the Environment and other government and federal agencies work together to implement the project.	Environmental and natural resource management consistent with state governments in Australia.
Promote corporate environmental accounting and reporting systems	-Japan Environmental Agency (JEA) -Partners: are the Community Accounting Institute, a number of businesses and organizations	-In 1996, created environmental accounting system standards, including ISO 14001 -Identify 6 types of environmental costs, develop a framework of 3 standards that companies can use to report and expand environmental accounting information
Invest in biological production	The United Nations Environmental Agency (UNEP) provides funding on	Started this project in 1998 with the goal of increasing the level of biomanufacturing investment in developing countries through

	bio-manufacturing, safe chemical management, business and environmental issues in developing countries such as Zimbabwe, Vietnam, Tanzania, Guatemala, Nicaragua	funding on biomanufacturing, safe chemical management, business and environmental issues schools in developing countries such as Zimbabwe, Vietnam, Tanzania, Guatemala, Nicaragua
Promoting ecological management accounting as a tool for environmental management (1996)	European Community Environment and Climate Program Committee	Large-scale surveys for ecological management accounting are emerging in European countries such as Germany, Italy, the Netherlands and the UK.
Environmental Accounting Initiative UK Environment Agency	Recommended by the British Environment Agency	-Develop an environmental accounting system within the company's financial management process -Reduce resource consumption -Produce scientific reports to save costs. -Methodology: based on a system to track environmental costs, distinguishing from operating costs, financial support costs, connecting financial data with other quantitative information such as material flows.
Implementing and disseminating environmental management accounting for Southeast Asian businesses to promote sustainable business activities (ENVIRONMENTAL MANAGEMENT ACCOUNTING-SEA)(from November 2003 to August 2007)	The International Capacity Building Organization (INWent) is located in Bonn and Cologne	-Organize scientific seminars to provide information on environmental management accounting -Implement 16 case studies at small and medium enterprises in 4 Southeast Asian countries -Develop a set of training materials to transfer environmental management accounting knowledge and skills to companies and Federal organizations through training seminars or through computers, open employee training classes Environmental management accounting ministries in different countries.

Source: Compilation author

Besides, in the world there are many other applications of environmental management accounting such as the project " green accounting activities" of the Danish environmental protection agency,...

One of the many methods applied in the above applications is the MFCA (Environmental management method) material flow cost management method. MFCA is an extremely effective management tool for business administrators. MFCA measures the flow of materials at each stage of production (can be a production stage, a running machine or a line...) with two main values: physical volume (m2, liter, kg,...) and value calculated into money. MFCA helps determine the value of waste that is overlooked in traditional environmental accounting. These wastes include 4 main types: waste of raw materials, waste of energy, waste of system costs (labor, depreciation of machinery,...) and waste of waste treatment costs.

MFCA was introduced by Tanabe Seiyaku in the drug manufacturing processes at Onoda Factory in 2001 in the topic METI Environmental Management Accounting in Japan. By using material cost flow accounting, Tanabe can identify unnecessary production costs and processes with the greatest material wastage. In 2002, Tanabe pioneered many innovative methods, such as installing chlorinated solvent collection and suction equipment and making changes to on-site liquid waste incineration. Due to the introduction of material flow cost accounting, cost savings from environmental protection methods amount to 60 million Yen per year and chloroform emissions will decrease rapidly. Tanabe uses this method as an effective tool to support decision-making regarding assessment criteria that increase company revenue and reduce the company's taxable environmental impact. In 2003, Tanabe consolidated material flow cost accounting methods into the SAP R/3 system and expanded material flow cost accounting methods to all of the company's factories. This synthesis facilitates the completion and accuracy of data. This method also makes the allocation of resources in the best possible way and the promotion of environmental conservation activities clear within the organization.

An overview of the application of environmental management accounting by United Nations members is as follows:

Table 2: Status of applying environmental management accounting by United Nations members

	Number of countries	Apply environmental management accounting	
		Number of countries	Ratio (%)
All members of the UN	192	49	25.5
By economic area: -Development area -Developing area	 38 154	 29 20	 76.3 13
According to the economy -Developed economy -Economy in transition -The economy is developing	 37 19 136	 27 3 19	 seventy-three 15.8 14
By geographical area -Africa -Central Asia, East Asia, South Asia, Southeast Asia -Europe and North America -Latin America and the Caribbean -Oceania -West Asia	 53 30 45 33 14 17	 5 7 26 4 4 3	 9.4 23.3 57.8 twelfth 28.8 17.6

Source: Compilation author

Comment: Worldwide, there are 49 countries implementing environmental management accounting, accounting for 25% of the total number of countries in the United Nations. In particular, the developed countries account for a high proportion (76%) compared to the developing countries (13%). Countries applying environmental management accounting are concentrated mainly in Europe and North America.

3. Conclusion

From the above analysis, it shows that environmental management accounting in the world develops most strongly in developed countries and the application of this method has the active participation and support of Government agencies with important role. This demonstrates the high appreciation and special concern of State leadership agencies for the environment in general and environmental management accounting in particular. At the same time, environmental management accounting also attracts research investment from the community of economic and scientific researchers. They are constantly searching for the most effective and general methods and applying popular environmental management accounting into practice. For businesses, environmental management accounting is no longer a strange concept and is gradually becoming an effective tool in corporate management. Therefore, it can be completely affirmed: Environmental management accounting in general and environmental cost management accounting in particular will become an integral part of corporate management accounting in the future. Distant.

4. References

1. Bennett M, Rikhardsson P, Schaltegger S, eds. Environmental Management Accounting: Purpose and Progress, 2003.
2. German Federal Ministry for Environment/Federal Environment Agency. Guide to Corporate Environmental Cost Management, 2003.
3. Japanese Ministry of Economy, Trade and Industry. Environmental Management Accounting Workbook, 2002.
4. United Nations conference on trade and development guidance manual. Accounting and financial reporting for environmental costs and liability, 2002.
5. United Nations. Environmental Management Accounting Procedures and Principles, 2001.
6. United Nations Conference on Trade and Development. Accounting and Financial Reporting for Environmental Costs and Liabilities, 2002.