Blue Accounting and Sustainability

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ABSTRACT

This article provides a conceptual understanding of blue accounting. All this time, accounting products in the form of financial statements only contribute minimally while investors need non-financial information in decision making. The method used is a qualitative method with a critical paradigm and discourse analysis approach. Data collection techniques are done through literature review. The results of the study provide a new paradigm regarding environmental accounting that presents financial and non-financial information. The role of conventional accounting needs to be shifted to prevent conflicts environmental damage. This is driven by environmental damage, especially in the marine ecosystem. The results of this study have implications for the development of environmental accounting and the accounting profession. This article recommends an accounting discourse that cares about the environment in making decisions for investors. The construction of blue accounting into sustainability reports can be started through conceptual papers

Keywords: blue accounting, sustainability, ocean

1. INTRODUCTION

The development of the field of accounting is synonymous with economic activity (of business entities) related to numbers. Accounting figures are generally expressed in monetary units [1] and are not value-free [2] and tend to be subjective [3]. Whereas accounting is not only related to numbers alone, it is greatly influenced by environmental factors [4,5,6,7,8,9] both internal and external environment of the company.

Accounting continues to move towards an evolution that harmonizes with nature. Various social and environmental accounting evolution was recorded starting from the concept of sustainability1, triple bottom line, sustainability reporting [10], until the Pentaple Bottom Line phase [11,12,13,14,10,1] and this phase continues. Blue accounting exists to fill the void in accounting, which has so far only prioritized the financial aspects of making business decisions but promotes environmental sustainability and social. Blue accounting refocused attention on environmental accounting which required communication and information about marine assets [15].

Blue accounting has the goal of highlighting sustainability. Sustainability means meeting the needs of the present generation without compromising the ability of future generations. The issue of sustainability attracts the attention of various parties, including the United Nations (UN) to conduct a High-Level Conference on the environment in 1972. For the first time, there was a recognition that there had been a conflict between environmental ethics and development [4].

Sustainability is a problem faced by the world economic model that still uses conventional accounting and finance [4].

Some researchers assume that the root cause of environmental problems arises because of anthropocentric2 [16]. Anthropocentric encourages humans to achieve the goal of mastering and controlling nature. In fact, it triggers a war, no longer a conflict that is local but global. Therefore, the Indonesian government maneuvered in the Rio + 20 S High-Level Conference (KTT) in Brazil on 3-14 June 1992 to realize the marine sector as a leading sector that mobilizes other sectors. Indonesia, which is the largest archipelago country in the world (as many as ± 13,487 islands) has crucial problems, exploitation and depreciation that contribute to social costs that must be paid by the community [17].

The reality of the case of sustainability in marine ecosystems occurs because of irresponsible human factors [18,19,20,21,22]. Excessive exploitation of natural resources causes a decrease in the competitiveness of various sectors as illustrated in the concept of dutch disease. Where the dutch disease is slow growth in countries that have abundant natural resources [23]. This has happened in Indonesia, where natural resources are abundant, but there has been a decline in the competitiveness and sustainability of nature itself.

2. LITERATURE

A. Sustainability Concept

The concept of sustainability consists of three aspects, namely: economic, social and environmental [14,24,25,26,27,28], the concept of sustainable development was adopted by the World Summit in Johannesburg, South Africa in 2002 and the birth of the concept of sustainable development. Sustainable Development Goals (SDGs) have

1 The concept of sustainability was coined by Brundtland in 1987 for the forestry sector, which did not harvest more than what the forest produced [28] The term sustainability has different meanings according to the field that uses it [76]

2 Anthropocentric is a view or assumption that humans are the center of all. Humans consider that humans are the most special creatures.
begun to be set by countries that are members of the United Nations.

SDGs can be implemented in all company activities based on the triple bottom line concept [14] namely economic interests (profit), the environment (environment), and social life (people), which came to be known as sustainable development [23]. The objectives of the Sustainable Development Goals are as follows:

![Figure 1. Sustainable Development Goals](image)

Source : [29]

In connection with the 14th SDG objective regarding marine ecosystems, the Indonesian government wants to make the Indonesian sea a leading sector. [30] explained that by 2020, preserving at least 10 percent of the coastal and marine areas, consistent with national and international law and based on the best scientific information available. [31] In his report, the President of the Republic of Indonesia stated "For Indonesia, Blue Economy is Our Next Frontier".

Unlike the green economy that focuses on reducing carbon, the efficiency of natural resources, efficient labor, including inspiring the birth of green accounting. Blue Economy is sustainable development that will enrich the green economy. The blue economy itself has the motto "Blue Sky - Blue Ocean" in which the economy grows, the people prosper, but the sky and the sea remain blue. So it can be concluded that the presence of the blue economy helped strengthen the position of the importance of blue accounting in maintaining natural sustainability.

B. Environmental Accounting

The company's main objective is to maximize investor prosperity. The company's stakeholders consist of; 1) primary stakeholders are parties who have an economic interest in the company and bear the risk and 2) secondary stakeholders are not directly involved with the company, but their relationship affects each other [15]. The ultimate goal of stakeholder practice is that managers may want to know about all matters relating to the interests of the stakeholders. Companies in carrying out their activities do not depend on secondary stakeholders, but the perspective of legitimacy [32]. Stakeholder theory is introduced through the combined role of public stakeholders and secondary stakeholders [33].

The power of stakeholders is triggered by conditions manifested by two attributes of relationships in other fields, namely legitimacy and urgency. Where strength does not guarantee stakeholder and manager relations. Legitimacy theory is closely related to stakeholder theory, where a power for authority is obtained through legitimacy, and power is exercised through urgency [34], and underlies corporate social responsibility [35]. The existence of stakeholder theory and Corporate Social Responsibility (CSR) emphasizes the importance of corporate responsibility to the community and society.

The topic of corporate concern for the environment and surrounding communities which we commonly refer to as corporate social responsibility has attracted interest to be discussed and is controversial for the last three decades [36]. Measuring the success of sustainable development is seen in the balance between environmental, economic, and social aspects. The social aspect is still limited to social responsibility which we are more familiar with the term CSR (Corporate Social Responsibility). The concept was built on the basis of norms, beliefs, western-European culture, and America [37]. Thus, emerging models of social responsibility such as traditional conflict, social economic accounting (SEA), Social Investment responsibility, even though social aspects are not only related to CSR but more broadly [23].

CSR is one of the earliest and key conceptions in the academic study of business and community relations [38]. In the business and community, several complementary constructions or frameworks seem to compete for excellence. The aim of increasing productivity and efficiency by the company is to maximize company profits. Various laws and regulations in Indonesia support the application of green accounting (Sukoharsono, 2017). Corporate Social Responsibility Reporting in Indonesia is the result of the application of various regulations that produce unique accounting concepts that are different from other countries. The concept of green accounting is one form of environmental awareness responses from the accounting side to the provision of how much costs arise and the benefits derived from a policy.

The concept of green accounting increased in the 1970s on the European continent. Where the main focus of green accounting is environmental costs (environmental costs) that should be spent by the company in running its business [42,43,44,45,46]. Basically the concept of green accounting must include several factors [47] namely: 1) Environmental conservation costs (measured in units of currency), 2) Economic benefits from conservation activities (measured in units of currency), 3) Benefits of environmental conservation (measured by physical environmental units).

The number of costs incurred in Corporate Social Responsibility activities, automatically lead to consequences on the flow of the accounting system for environmental costs (environmental costs). The cost of environmental activities can be measured by various indicators which are influenced by the company's policies and strategies. The concept of environmental activities is also associated with the triple bottom line (TBL) of the business organization [39].

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3 Another term related to green accounting is Sustainability Accounting [77]: Environmental Accounting [78]: Social and Environmental Reporting [79]: Social Responsibility Accounting [80]. In addition, green accounting is also associated with Triple Bottom Line Reporting [80].
conservation refers to investment and costs, measured in monetary value, allocated to the prevention, reduction, and/or avoidance of environmental impacts, reduce these impacts, restoration due to disasters, and other activities [43]. Green accounting usually supports the practice of government accounting, financial accounting, cost accounting, and managerial-strategic accounting [48].

Usually, companies can present it through annual reports in general or presented separately. There are no usual parameters for the disclosure of environmental problems [49] but are more motivated by volunteerism [50,6,51]. The emergence of financing for cases of environmental damage and necessity (conditional) regulated in accounting standards such as the FASB [52], legitimacy theory [53] and political economy theory [33], and agency theory [54].

3. METHOD

Research activities aimed at solving existing problems. Completion of research problems is done through thought processes that originate from various perspectives or paradigms about the world [55]. There is not a single field in social behavior that has escaped the manifestation of this paradigm debate. In fact, the discipline of accounting is also inseparable in discussing issues related to multiparadigm. This refers to the work of Thomas Khun (1996) who argues that a paradigm is a world view, a general perspective, a way of breaking down the complexity of the real world.

Some experts such as Burell and Morgan are interested in discussing the paradigm, by mapping the paradigm into four parts namely; functionalist paradigm, interpretive paradigm, radical humanist paradigm, and radical structuralist paradigm [56]. The paradigm is the "choice" of each researcher to choose the desired method (quantitative or qualitative). The rapid development of accounting research is certainly not only seen in one practice. Accounting research in social and environmental life is increasingly interesting to be studied using qualitative methods with critical paradigm and discourse analysis approach.

A researcher has different interpretations and subjectivities in understanding social reality [56] because all researchers have views/interpretations through their writings (research) [57]. In line with this, it is said that the subjectivity of researchers is the only thing that must be maintained when conducting research [58]. In qualitative (natural) research, subjectivity is natural [59] and qualitative research results are considered as the results of the researcher's subjectivity.

Discourse analysis has been used in various scientific disciplines, both social and social sciences, not even a little used across disciplines. Generally discourse analysis has the target language used daily, both in the form of oral and written texts, as objects of study [60]. Discourse analysis is an alternative to the confusion of media analysis which is more dominated by conventional content analysis with its positivist and constructivist paradigms. Therefore, this article uses discourse analysis in describing reality.

4. DISCUSSION

Since The United Nations Convention on the Law of the Sea was ratified, the government of the Republic of Indonesia has participated in establishing Law No. 17 of 1985 concerning Ratification of the United Nations Convention on the Law of the Sea, Indonesia does not yet have a policy that specifically regulates the sea. As the largest archipelagic country in the world that has coastal and oceanic territories is the foundation of hope that must be sustainably developed and able to prosper all components of the nation in its own homeland [31].

Law of the Republic of Indonesia No. 17 of 2007 concerning the National Long-Term Development Plan (RPJPN) 2005 - 2025 lists 8 (eight) sectors to be developed. One of them is "Manifesting Indonesia into an archipelago that is, developed, independent, influential, and based on domestic needs". As an archipelagic country, Indonesia has 5 (five) main pillars in making a bow in the expansion of the National Ocean namely marine culture, ocean governance, maritime security, maritime security, ocean economy) and the marine environment.

These economic and environmental pillars are the core components in the concept of a blue economy, because basically the blue economy is an economic expansion matrix based on environmental ethics [31]. Both the green economy and the blue economy grew and started with a sustainable environmental ethics, but fundamentally different. The presence of the blue economy which was introduced in 2010 by Gunter Pauli through his book The Blue Economy gives a nuance that is contrary to the adoption of green economy by the United Nations Environment Program.

Green economy has been sufficient to stimulate low carbon capital practices, resource efficiency, cleanliness, reduce waste, and environmental empowerment [63]. Nevertheless still unable to answer basic problems, namely; The existing economic system is seen as a given and green economy products and services tend to be more expensive because they require more investment. Furthermore, sustainable renewal through the concept of green services and products, which are commodities and services that are good for the ecosystem must be purchased at a higher price and cannot be bought by the underprivileged [63]. Blue economy does not have to be a Marine Economy but this concept is very suitable for development in the marine and fisheries sector.

Research results [64] show that there is almost no catch data submitted by member countries to the Food and Agriculture Organization. Researchers argue that the notion of blue accounting is not centered on environmental costs that defend the rights of capital owners, but guarantees a "balance" between the needs of living things and the ability of nature to meet natural resources. Blue accounting, is here to support the Indonesian government program namely blue economy. This is in line with what is expressed by the United Nations that various pathways to blue economy depend on national and local priorities and goals [65]. Thus,
the blue accounting in this article, its presence is not to oppose the presence of green accounting, it actually complements the focus of the study which escaped the observation of green accounting.

Green accounting has begun to develop since the 1970s in Europe. Green accounting was born because of the increasing awareness of many parties and pressuring companies to implement environmental management [8]. Textually the presence of Green accounting to support the movement of nature conservation in the company's daily activities [42]. Furthermore, it can be emphasized that green accounting is accounting in which it identifies, measures, evaluates, and discloses costs associated with the company’s activities related to the environment. Blue accounting is different from green accounting [51].

Blue accounting focuses on the life of marine ecosystems, which cover 72% of the total planet earth. The term blue accounting began to be used in the Great Lakes and St. Lawrence River initially focused on water quality in the area, with attention to aspects of the triple bottom line, namely economic, social, and environmental. There are five focuses of the pilot project when representing various interests and stakeholders in the watershed, namely: 1) Fish species in waters, 2) Coastal wetlands, 3) Sea transportation, 4) phosphorus control, 5) Water sources. Abreu, David, and Segura (2019) explained that blue accounting can be used to analyze blue economy. The aim is to increase the interest of the people and organizations towards the arrangement of marine ecosystems which can be emphasized in several aspects.

On the other hand, it was revealed that effective maritime spatial planning must be used as an instrument to find suitable areas for aquaculture activities in the region and reduce potential conflicts between aquaculture and other uses, such as tourism, fishing recreation, commercial fishing, and nature protection [68]. The emergence of both green and blue economy (see figure 3) is influenced by the existence of a sustainable concept that requires harmony with nature that puts forward three aspects namely environmental, economic, human aspects (triple bottom line). Furthermore, both the green and blue economy inspired the emergence of the concept of green and blue accounting which have the same estuary that is to produce sustainability reporting obtained through environmental costs.

The difference between green and blue accounting lies in the focus of the object of study, namely green accounting focuses on carbon / gas emissions while blue accounting focuses on marine / maritime ecosystems. The term "blue" defined as water quality in discussions with the theme "blue economy." [69]. Nevertheless, there is confusion among the hydrological community in using the term green or blue color in water because it still uses clear definitions of stock and flow and tracks water balance over time [70]. Whatever color term is used, it must always be clear how a term matches the stock or flow that can be identified in the water cycle. Therefore, in this study the term blue refers to water (sea). Furthermore, the term "accounting" refers to the act of aligning water decisions with desired results.

In order to get a picture of the differences and similarities between green accounting and blue accounting, researchers summarize in a chart that can be seen in the following chart:

![Figure 2: Differences and Similarities in Green Accounting and Blue Accounting](image)

Source: Processed from various sources (2018)

Blue accounting is a process of thinking about maritime, and the assets within it can be the driving force of the marine economy, which is still underestimated by some parties [71]. As the opinion put forward by [67] that blue accounting is momentum in mapping information on an ongoing basis and stakeholders who make investment and funding decisions in the maritime field can make decisions based on financial statements. The existence of blue accounting further strengthens the current position of environmental accounting. It’s time for accountants to focus on marine ecosystems that are rich in natural resources but not adequately managed.

Blue accounting opportunities are wide open for accountants around the world. It is expected that accountants will not only become accountants scorekeepers, namely the role of accountants will initially be limited to compiling financial reports [72]. Because the environment has undergone significant changes, the accountant needs to take on the role of a strategic maker (score player actor) who has the ability not only as an organization’s profit maker [73]. The types of accountants based on their role can be seen in the following table:

<table>
<thead>
<tr>
<th>Accountant level</th>
<th>The Role of Accountants</th>
<th>Definition of the Role of Accountants</th>
</tr>
</thead>
<tbody>
<tr>
<td>scoreplayer</td>
<td>Actor</td>
<td>Involved with strategic actions</td>
</tr>
<tr>
<td>Conceptor</td>
<td>Doer</td>
<td>Implement accounting concepts but don’t</td>
</tr>
<tr>
<td>scorekeeper</td>
<td>Administrator</td>
<td>Do not really understand the concept of accounting but the level of use of the concept is quite high</td>
</tr>
</tbody>
</table>

Source: [72]; [73]

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5 https://www.blueaccounting.org/
Especially management accountants who always focus on improving the performance and profitability of the organization [74]. Likewise, educator accountants who focus on credit points make him in the position of scorekeeper. [74] revealed that accountants have various roles, namely as administrator, doer, conceptor and actor. An accountant is expected to not only present information to stakeholders but to create value for the usefulness and sustainability of financial information.

ACKNOWLEDGMENT

Blue accounting focuses on the life of marine ecosystems in contrast to green accounting, which focuses on carbon emissions. But both of them highlight the same thing, namely sustainability. The presence of blue accounting does not oppose the existence of green accounting. Even strengthen the current position of environmental accounting. The results of this study have implications for the development of environmental accounting and the accounting profession that are expected to not only be recording transactions but become accountants who make the rules.

REFERENCES


[40] Undang Undang Republik Indonesia Nomor 40 Tahun 2007 Tentang Perseroan Terbatas, “.”


[61] Undang Undang Republik Indonesia Nomor 17 Tahun 1985 Tentang Pengesahan United Nations Convention On The Law Of The Sea (Konvensi Perserikatan Bangsa-Bangsa Tentang Hukum Laut), “...”


