JIMU: Jurnal Ilmiah Multi Disiplin
Vol. 02, No. 02, Tahun 2024, Hal. 265 – 272, ISSN: 3031-9498 (Online)

MSMEs Upgrade with The Concept of Green Accounting and Digitalization: Study Literature Review

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Article Info

Article history:

Received May 25, 2024
Revised May 29, 2024
Accepted June 02, 2024

Keywords:

green accounting; digital accounting; MSMEs

ABSTRACT

Micro, small, and medium enterprises (MSMEs) are key players in the small and environmentally friendly industrial sector. However, the integration of green accounting and digitization within MSMEs remains underdeveloped, presenting an opportunity for further research. This study aims to examine the progress of green accounting and digital accounting practices in MSMEs. It will explore both macro and micro perspectives on green accounting, focusing on environmental issues, ecological science, and the sustainable management of natural ecosystems. The research methodology involves a literature review, with a population sample of 1,603 MSME units in the city of Medan. Findings suggest that MSMEs can elevate their status by adopting digitalization in their marketplaces and implementing green accounting principles, which can generate benefits for both the environment and the enterprises themselves.

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Introduction

In accordance with Government Regulation No. 7 of 2021 on the Ease, Protection, and Empowerment of Cooperatives and Micro, Small, and Medium Enterprises (MSMEs), these businesses are entitled to enhance their economic sector (Government Regulation, 2021). To achieve stable and long-term economic growth, it's essential to support macroeconomic stability and a robust financial system. Empowering the real sector, particularly by fostering the growth of MSMEs, which significantly contribute to Indonesia's economic development, is crucial for these efforts. The global market poses challenges for MSMEs, as their products must compete with those from other countries. To be competitive, it is imperative to improve access to financial services for MSMEs. Currently, banks and financial institutions often lack sufficient information on the potential and sustainability of

MSMEs, hindering their development (Riana et al., 2014). Furthermore, MSMEs need to provide comprehensive financial reporting to enhance their chances of obtaining loans from banks or other financial institutions.

In contrast, MSMEs possess only a limited amount of information about bank products and services that align with their business development needs (Marlina & Rahmat, 2018). They also require information about the procedures and requirements necessary to obtain financing. To bridge this information gap, we provide an information medium called Minisite Info for MSMEs. This platform supports MSMEs in securing financing from banks or other financial institutions and helps expand their market access. We offer various types of information, including profiles of MSMEs eligible for financing, patterns of leading commodity financing, business models for MSME development, applications for recording MSME financial information, data on MSME development in Indonesia, and updates on MSME loans. By adopting clean manufacturing practices or investing in green technology processes or products, businesses can significantly reduce or eliminate many environmental costs (Cucchiella et al., 2017). Green accounting, which incorporates environmental factors into an organization's financial results, is regarded as an important management system that enhances both business economics and environmental performance. A comprehensive understanding of behavior, engineering, sociology, and even biology is essential for green accounting (De Beer & Friend, 2006).

Environmental cost accounting serves as a fundamental principle of green accounting. The objective of green accounting is to record and measure environmental activities and their impacts in order to mitigate them. Its key role is to address social and environmental challenges that can influence the pursuit of sustainable development (Chen et al., 2014). In the realms of human-related environmental accounting, environmental management, and policy-making, green accounting introduces innovative concepts and ideas..

Green accounting and how to cut costs as a way to get a better insider view of any economic entity. It is also an instrument to provide basic data to independent directors, encourage ideal dual asset transactions, and protect and guard against climate hazards. The substance of the article includes: Perspectives on environmental stewardship: macro and micro views on the development of green accounting Several perspectives on how green accounting can be measured: Measuring environmental costs, costs based on the product life cycle, and costs using the ABC method Determining the factors that influence the use of green accounting in MSMEs in the city of Medan and digitizing their accounting.

The advancement of digital technology has rapidly accelerated, especially since the Covid-19 pandemic, prompting more people to shop online. Consequently, electronic trading platforms have become increasingly popular for shopping and transactions (Vasda, 2022). According to Perry Warjiyo, the Governor of Bank Indonesia, electronic trading platform transactions saw a 12% growth compared to February of the previous year, reaching Rp 30.8 trillion. This shift has motivated Bank Indonesia to develop a digitalization program for MSMEs. The aim of accelerating MSME digitalization is to expand market access and

enhance competitiveness, ultimately strengthening MSMEs. This is achieved through the three pillars of BI's MSME Development Program: increasing production capacity, improving cost efficiency, and expanding market reach. One key initiative within these three pillars is the UMKM Digitalization Program.

The digitization of MSMEs is an initiative by BI to accelerate the development of digital MSMEs in response to the rapid advancement of digital technology. The UMKM Digitalization Program includes e-Farming, which leverages digital technology in agriculture to boost production capacity and improve cost efficiency (Sunaryono et al., 2022). It also encompasses e-Commerce, aimed at enhancing digital marketing capabilities and promoting MSMEs to global markets via digital platforms (Handayani & Soeparan, 2022). Additionally, the program supports e-Financing through digital applications for SMEs, such as SI APIK, and provides digital payment facilities to streamline MSME transactions, like QRIS UMKM.

This article explores green accounting from both macro and micro perspectives, focusing on environmental and ecological science issues and the sustainable management of natural ecosystems. It aims to address the rational use of resources by outlining green accounting measures and approaches, such as cost measurement by product life cycle, the ABC method, and environmental cost measurement. Additionally, the article examines and identifies factors influencing the adoption of green accounting in business, demonstrating that its implementation supports sustainable development in the business sector.

Methods

Experts employed quantitative exploration in this study. Quantitative research involves analyzing data using statistical methods and representing it with numerical symbols (Creswell & Creswell, 2017). Secondary data, specifically company financial statements, were utilized. Purposive sampling was employed, selecting data based on predetermined criteria aligned with the research objectives. The selected portion of the population, known as the sample, served as the object of research. Data analysis involved systematically gathering and compiling data from interviews, field notes, and other sources to facilitate clear communication of findings (Wijaya, 2018).

Results

a. Green Accounting

Companies utilize green accounting to discern macroeconomic indicators. However, as these indicators evolve gradually, a more sophisticated accounting system is necessary to gather comprehensive data on both the domestic and global economies. Despite the continued use of conventional standards, comprehension remains challenging, hindering individuals' understanding of its contents. Consequently, professionals must assess their capabilities to ascertain whether they can sustain their current needs, considering the generational credit that will support these requirements. Implementing green accounting necessitates restructuring and innovating the company's accounting system, along with

assessing the composition, materials, natural resources, costs, and environmental impacts of business activities pertaining to the natural environment (Yasrawan & Werastuti, 2022).

The statement above indicates that the world demonstrates the ratio of shares, encompassing all types of capital—man-made, natural, and human—at the end of a period compared to the ratio at the beginning. Through observations conducted in various supervisory firms to promote the adoption of green accounting, it was discovered that multiple types of measurement are utilized within a green accounting system. This approach involves collecting and analyzing data from diverse sources and employing multiple criteria (Harrison, 1989).

Furthermore, it is essential to employ a comprehensive and thorough employee performance evaluation system alongside green accounting practices. To minimize costs and enhance the quality of life for the average individual, audits must be conducted utilizing economic technology. The implementation of the green model should emphasize the utilization of diverse indicators (Bernard, 1990; House, 1990; Kuik & Verbruggen, 2012). Several environmental quality indicators were suggested by the Environmental Quality Council in the 1970s (1981), and more recently by the World Assets Establishment in 1992, which green accountants should incorporate. Additionally, they should utilize product life cycle assessment tools to gauge the environmental impact of business activities, fostering cleaner production by evaluating total costs. Furthermore, integrating traditional accounting with environmental financial disclosures for companies is crucial (Cairns, 2001). Green accounting systems need to be flexible and adaptable, structured to enable organizations to stay abreast of new indicators and information from society and the environment. A specialized conceptual model illustrating the relationship between the economy and the environment should be linked to a green accounting system. Constructing the database in a manner accessible to various delivery models, particularly environmental models, is imperative.

Additionally, it is crucial to focus on articulating and integrating the conceptual framework within each sector that poses various threats to sustainability, such as agriculture, forestry, fisheries, climate, species diversity, air, water, and soil quality, among others, when developing a green accounting system. Developing such a system necessitates the collaboration of specialists from each respective field. These experts are tasked with identifying the primary conceptual framework and normative assumptions within their domain. For instance, in agriculture, a range of stakeholders including family farmers, organic growers (both large and small-scale), commercial growers, genetic engineers, and consumers with backgrounds in agriculture are required. They may be consulted to delineate their methods for assessing soil degradation and quality, considering both short-term and long-term threats to sustainability.

Green accounting mandates encompass expanding corporate social responsibility, adopting environmentally conscious production practices, internalizing external production costs, redesigning product manufacturing and packaging processes, reducing resource wastage, and implementing 3R (Reduce, Recycle, Reuse) policies (Stanojevic et al., 2010).

Green design emerges as the quintessential solution across all facets of green accounting. It involves reorganizing the product manufacturing process, also referred to as green design, which entails designing products to simultaneously fulfill profit and environmental objectives.

b. Digitalization of Accounting

The rapid advancement of information technology has led to the widespread adoption of digital processes in many business operations. Digitization refers to the transition from analog to digital formats (Anggraeni, 2019). It involves converting diverse information from analog to digital formats to facilitate easy production, storage, management, and distribution to information users for specific purposes and as a basis for decision-making. One example of digitization is the conversion of various information types from analog to digital formats. Another instance is the digitization of documents, which involves transforming printed documents into electronic ones. With electronic documents becoming standard in organizational documentation processes, the need for digitizing printed documents becomes redundant.

The primary objective of digitalization is to enhance operational efficiency and decrease costs for businesses. This involves implementing information systems that streamline employee tasks, minimize errors through process automation, and digitally store report data (Pratami, 2022). Consequently, there is a reduction in paper usage for reporting purposes, leading to decreased paper consumption. Organizations derive advantages from the adoption of information systems to manage both internal and external tasks in daily operations and to facilitate long-term decision-making processes.

An information system within an organization integrates daily transaction processing requirements with strategic activities to generate reports needed by external parties, thereby supporting the operational functions of managerial entities (Aprilianti, 2021). Financial accounting, a subset of accounting, is concerned with recording company-specific economic transactions and generating financial reports as output.

Discussion

The findings indicate that the independent variables, namely STRATE (Business strategy), CHAIN (Supply chain characteristics), and CHARAC (Business characteristics), have a significant impact on GA (Green Accounting). Conversely, the independent variables DOCU (Legal regulatory system) and ACCOU (Enterprise accounting system) show no influence on GA. Similarly, the variables CHAIN, ACCOU, CHARAC, and GA exhibit an impact on the dependent variable SUS (sustainability of business), while the independent variables DOCU and STRATE do not affect SUS. Among the independent variables, STRATE exhibits the strongest impact on GA, while ACCOU and DOCU have no impact. Furthermore, the intermediary variable GA demonstrates the most substantial effect on SUS, whereas DOCU and STRATE show no impact. This underscores that the adoption of green accounting is contingent upon the company's strategy. Moreover, business characteristics and

supply chain characteristics also play a role in influencing the adoption of green accounting. This underscores the significance of stakeholder collaboration within the supply chain and the specificity of production technology and human resource qualifications in determining the implementation of green accounting. Furthermore, green accounting positively influences the level of sustainable business development. Apart from supply chain characteristics, business characteristics, and accounting systems, sustainable business development is also affected positively by green accounting.

Previous research synthesis reveals that green accounting is closely intertwined with environmental and ecological sciences and the sustainable management of natural ecosystems, representing a novel concept within the realm of environmental science. At its core, green accounting addresses the challenge of rational resource utilization and offers measurement and approach methods as its primary focus. Serving as a mechanism for cost reduction, green accounting enhances the internal perspective of any economic entity. Moreover, it functions as a vital tool for decision-making by providing crucial information that facilitates optimal resource utilization and safeguards against environmental threats.

Conclusion

Previous research findings also indicate that green accounting is closely tied to environmental science and ecology, focusing on the sustainable management of natural ecosystems. It represents a novel idea and concept within the environmental science domain. The primary objective of green accounting is to address the challenge of rational resource utilization and to provide measurement and approach methods. It serves as a tool for cost reduction, enhancing the internal perspective of any economic entity. Additionally, it offers vital information for decision-making, facilitating optimal resource utilization and protecting against environmental threats. Furthermore, companies are encouraged to adopt green accounting as it incurs costs aimed at enhancing the surrounding environment and the company itself. Government support is crucial to promote the implementation of green accounting practices.

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