The effect of green accounting adoption on companies' performance in developing economies: Literature review

أثر تبني المحاسبة الخضراء على أداء الشركات في الاقتصاديات النامية: مراجعة الأدبيات

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Abstract:
The author presents a systematic literature review on green accounting effect on companies' performance. The purpose of this article is to review the effect of green accounting adoption on companies' performance in developing economies. Analysising and reviewing the body of literature also provide directions for future research. A total of 29 papers were systematically studied and classified. The review includes an analysis of the chosen papers that provides insights about green accounting adoption.

The literature indicates the positive effect of green accounting on the performance of companies, but with a varying degree on various categories of countries, industries, companies, and greening adoption level. The findings can assist managers and policy makers to tailor strategies related to green accounting in developing economies.
Keywords: Environmental costs; Financial performance; Sustainability accounting.
Jel Classification Codes: M41, Q56.

ملخص:
قدم الباحث مراجعة منهجية للأدبيات حول أثر المحاسبة الخضراء على أداء الشركات. تهدف هذه الدراسة لمراجعة تأثير تبني المحاسبة الخضراء على أداء الشركات في الاقتصاديات النامية. يوفر تحليل ومراجعة مجموعة الأدبيات أيضا توجيهات للبحث في المستقبل. تمت دراسة تحليل وتصنيف 29 ورقة بحثية بشكل منهجي. تتضمن المراجعة تحليلا للأوراق البحثية المختارة التي توفر رؤى حول تبني المحاسبة الخضراء.

تشير الأدبيات إلى التأثير الإيجابي للمحاسبة الخضراء على أداء الشركات، ولكن بدرجات متفاوتة على فئات مختلفة من البلدان، والصناعات، والشركات، ومستوى تبني التخضير. يمكن أن تساعد النتائج المتوصل إليها المدراء وصانعي السياسات ومتخذي

القرارات على تصميم الاستراتيجيات المناسبة المرتبطة بالمحاسبة الخضراء في الاقتصاديات النامية.

كلمات مفتاحية: تكاليف بيئية؛ أداء مالي؛ محاسبة الاستدامة.

تصنيف JEL : M41; Q56

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1. INTRODUCTION

Global warming and climate change are the most crucial environmental issues facing the business world (Menike, 2020, p.518). Human activities have led to damaging the environment, by depleting natural resources, and polluting the environment (Tu & Huang, 2015, p.6265). Susanto & Meiryani (2019) suggest that the reaction of the organization towards environmental issues is pivotal not only to the environment but to the organization itself in developing corporate image, sustainable practices and certifications that enhance organization repute and managers understanding of the environmental need along with improved societal commitments. Bouarar et al. (2022, p.1) argue that "the green economy helps in overcoming environmental problems, depletion of natural resources, and ensuring the well-being of people at the lower position of the economic pyramid".

Conventional accounting practices are unsufficient in providing the necessary information needed by the stakeholders. Environment awareness has rose people concernes over the world in green accounting to monotire ecological performance of their surroundings (Ahmad et al., 2017, p.197). Green accounting is a key part of corporate social responsibility and can help improve decision making and convince business leaders about the value of its implementation. Green accounting is one of the options that gauge the environmental impact of human activity on the earth’s ecological systems and resources (Byzzanthi & Ermawati, 2021, p.1). As green accounting has become more important nowadays, investors and consumers need more information on a company’s environmental and social performance (Hossain, 2019). By environmental accounting and reporting, valuable information related to the impact of activities of companies on the environment are identified and disclosed (Üçoğlu, 2022). Green accounting will help organizations in identifying the use of resources and the costs spent (Singh et al., 2019, p.481). Therefore, as a key step towards a sustainable economy, green accounting aims to incorpotate environmental factors into the financial results of its activities.

The accounting sector can play a crutial role in the quest of preserving the environment in the shape of environmental costs, and the implemention of the corporate sustainability management system could be a pivotal factor that can upgrade the company’s financial performance (Endiana et al., 2020). Therefore, companies can improve their environmental performance by deciding on how much of an environmental resource to use and when to use, this can be fullfiled by green accounting (Almaliki, 2020, p.127). Green accounting includes the identification, measurement and allocation of environmental costs, and the incorporation of such costs with the business (Şimsek & Ozturk, 2021, p.48). According to performance improvement theory (PIT), firms are engaged in sustainability accounting generally for the reason of better corporate performance benefit generated through good reputation and cost reduction (Iliemena, 2020, p.58). Fogarassy et al. (2018) argued that green accounting occurs at the corporate strategy level, but its implimentation does not rely on social needs and the sectoral circumstances of the company. Previous empirical researches carried out in developed economies provide mixed results about effect of green accounting adoption on companies' performance. For example, Fogarassy et al. (2018) found that green accounting can reflect positively on the profitability of industrial companies in Hungary, provided that legislation is available to motivate companies to take the environmental cost into account. In Turkey, Şimsek & Ozturk (2021) found that there is a mutually significant relationship between environmental accounting and performance.

In general, performance is “a measure quantitatively and qualitatively determining the outputs obtained as the result of a planned event” (Şimsek & Ozturk, 2021, p.49). Firm performance by environmental (Malarvizhi & Matta, 2016). In developing countries green accounting adoption level is generally still in its enfancy, because the major concern are on more important issues such as tackling unemployment, reducing inflation rate, building infrastrature, and food security, therefore scant are the empirical evidence available on the relationship between green accounting and companies' performance in developing economies, including Algeria.

The rest of this paper is structured as follows. Section 2 presents the conceptual framework about the green accounting and companies' performance. Section 3 describes the methodology. Section 4 shows and reviews the studies that have analyzed the effect of green accounting on companies' performance in developing economies. Finally, Section 5 provides the implications and limitations of the study, along with future research directions.

2. Conceptual framework

The increasing awareness of environmental costs and their inclusion into corporate performance reporting has resulted in the development of a new environmental aspect of accounting (Novovic Buric et al., 2022). The growing concern on the environmental issues has led to the increasing importance of green accounting. Green accounting provides a framework via measuring present, past and future environment cost for decision-making and public communication (Ahmad et al., 2017, p.197). In green literature, “sustainability accounting” and “environmental accounting” are usually used as a terms for green accounting. Green accounting is "the ability to provide accurate information in the financial statements regarding the estimated social cost occasioned by the production externalities on the environment and how much deliberate intervention cost had been incurred to bridge the gap between the marginal social cost and the marginal private cost by a firm" (Makori & Jagongo, 2013, p.248). Green accounting can be defined as "the whole of the activities of determining, collecting, analyzing and reporting environmental cost information to relevant persons" (Şimsek & Ozturk, 2021, p.46). Cohen & Robbins (2011) defined green accounting as "a style of accounting that includes the indirect costs and benefits of economic activity, such as environmental effects and health consequences of business decisions and plans". Green costs can be broken-down into the following categories: (1) costs of prevention; (2) costs of detection; (3) costs of internal failures; and (4) costs due to external failures (Gonzalez & Peña-Vinces, 2022).

Green accounting is a growing field that aims and to provide important and necessary information on green costs and revenues, and direct businesses and project owners in making economic decisions, motivating them to make efforts to use natural resources, including natural resources created by man, effectively and efficiently (Nguyen, 2020a). Novovic Buric et al. (2022) found that socio-demographic factors have a significant effect on understanding the importance of green accounting in the tourism sector of Montenegro and that most tourism companies include corporate social responsibility in their business strategy and policy. Green accounting includes production, analysis and the utilization of information related to financial matters in the environment regarding the economic and environmental performances of a company (Rounaghi, 2019, p.505). In addition, green accounting include all expenses gained associated with preserving the environment, such as the treatment of emissions as wasted material, labor, and capital, which is thus referred to as “non-product output,” caused by inefficient production activities (Riyadh et al., 2020, p.425). Green accounting information include information pertaining treatment of chemicals generated in a production process, labour cost (embedded in salaries and wages), disposal costs, fines and penalty costs or savings, regulatory fees, maintenance costs, cost savings in transitioning to more environmentally friendly methodologies, materials costs etc (Iliemena, 2020, p.59).

Green accounting and reporting have several advantages, such as providing a reference for more sound decision-making processes, optimization of company value, better corporate image, and high customer loyalty and investor trust (Üçoğlu, 2022). Shah & Bhatt (2022) found that the adoption of green accounting is positively influenced by environmental knowledge, environmental concern, and perceived benefit. Fogarassy et al. (2018, pp.62-63) concluded that green accounting has value or worth, as it is able to: (1) implement general accounting systems; (2) connect to controlling mechanisms; (3) link to corporate social responsibility (CSR); (4) strengthen decisions and financial outcomes through its feedback; (5) disclose structural components and technical details of environmental finances and costs, both in money and nature; (6) make cost assessments both of inputs, such as secondary raw materials and the output structure of products or waste; (7) provide information, not just at company level but for specialized sectors; (8) represent a marketing and decision maker support role; (9) stimulate stakeholders to obtain environmentally friendly products; and (10) bring about positive financial performance (net income) in the long run.

The implemention of green accounting remains facing several problems at firm level. Studies found that lack of promotion on the use of green accounting, lack of collaboration between accountants and environmental management departments were major obstacles of green accounting adoption (Tsui, 2014). In Bangladesh, Hossain (2019) found that critical challenges to implement green accounting are: cost involvement, lack of skilled manpower, lack of set rules about green accounting, inadequate green accounting standard, low adoption of green accounting, unspecific principles of green accounting. In Thailand, Setthasakko (2010) found that barriers to the development of green management accounting in organizations are: lack of building organizational learning, a low emphasis on economic performance and lack of guidance on green management accounting. In Kenya, Wachira (2014) studies green accounting practices for 30 firms in different fields. The findings revealed that there was a low association between technology and the adoption of green management accounting. The results also revealed that compliance cost, environmental strategy and financial performance had a significant impact on the adoption of green management accounting. Firm size and firm age are two factors that do not have any correlation with the level of green management accounting. In Vietnam, Nguyen (2020) investigated green accounting implementation in mining industry. The results suggests different factors impact on green accounting adoption including: (1) stakeholder pressure, (2) corporate characteristics, (3) coercive pressure of government agencies, (4) environmental awareness of high managers and accountant qualifications of green accounting. Also in Vietnam, Tran et al. (2021) investigated factors affecting the implementing of green management accounting in automobile industry. Results show that 7 factors affect the potientiallity of application green management accounting in automobile industry. These factors are coercive pressure, normative pressure, mimetic pressure, business environmental uncertainty, environmental strategy, benefits when applying green management accounting, and task complexity.

3. Research Methodology

The main aim of systematic literature review is to present and evaluate the literature related to the research topic by using a thorough and auditable methodology. In this paper, the data has been collected through secondary sources. According to Kitchenham (2004), accomplishing systematic literature review includes several discrete activities which are broken down into three main stages named as (1) planning the review, (2) conducting the review, and (3) reporting the review.

4. Relationship between green accounting and companies' performance

To investigate the relationship between green accounting and companies' performance, empirical studies have used quantitative and qualitative methods. Some empirical studies were case studies, using a qualitative approach. These studies analyzed a specific firms and lack statistical generalizations. Companies may increase the level of green accounting adoption in anticipation of better environmental performance and improving company image. However, despite these merites companies are reluctant to green accounting adoption due to a lack of evidence linking green accounting with improved company performance.

Lusiana et al. (2021) in an examination of literature of 30 studies on green Accounting, corporate social responsibility disclosure, and financial performance. They found that green accounting and corporate social responsibility significantly affects financial performance, affecting firm value; and the application of green accounting affects increasing profits and deceasing insurance costs and capital costs can decrease total production costs, potentially increasing profits. A total of 29 papers that analyzed the effect of green accounting on companies' performance were identified. Table 1 shows 12 studies.

Table 1. Summary of studies about green accounting-financial performance link

Source	Country	**Major Results**
Makori & Jagongo (2013)	India	There is significant negative correlation between environmental accounting and return on capital employed and earnings per share; also a significant positive correlation between environmental accounting and net profit margin and dividend per share.
Magara et al. (2015)	Kenya	Constructs of green accounting application (environmental information, environmental evaluation, compliance of environmental laws andtracking of environmental cost savings) are significantly positively related to perceived financial performance of the corporate.
Ahmad et al. (2018)	Pakistan	A significant positive relationship between environmental accounting and firm’s size. whereas, earning per share and return on capital employed were statistically found to be insignificant.
Egbunike & Okoro (2018)	Nigeria	There was no significant relationship between green accounting (expenses of community involvement and money spent on environmental protection) and profitability measures (return on equity and Tobin Q) among the non-consumer goods firms.
Wahyuni, Meutia, &	Indonesia	The implementation of green accounting in the shape of recycled materials, renewable energy,

Syamsurijal (2019)		and green cost allocation has a positive and significant effect on improving environmental performance.
Almaliki (2020)	Iraq	Adopting green accounting effectively lead to reducing costs and improving environmental performance.
Omesi & Berembo (2020)	Nigeria	There is no significant relationship between the social accounting and the performance of the activities of the oil and gas companies.
Menike (2020)	Sri Lanka	Green accounting disclosure and firm size had a significant positive effect on companies' performance (measured by return on assets).
Carandang & Ferrer (2020)	Philippines	Green accounting disclosure has no significant effect on both profitability and firm value. Environmental costs reporting has significant impact only on return on equity, however when moderated by firm size, board size and location has significant impact on net profit margin, return on equity and Tobins Q.
Byzzanthi & Ermawati (2021)	Indonesia	Green accounting and financial literacy has a strong correlation with a correlation coefficient of 0.601. However, green accounting and financial literacy have insignificant correlation with financial performance.
Benson et al. (2021)	Nigeria	Environmental cost accounting has a significant impact on the financial performance of oil and gas companies. Green management accounting has significant impact on the financial performance of oil and gas firms.

In Nigeria, some studies have found a positive association between environmental accounting and financial performance (Benson et al., 2021); net profit margin and dividend per share (Adediran & Alade, 2013). Che-Ahmad et al. (2015) found that there is a significant relationship between environmental accounting disclosure and firm's financial performance when environmental accounting is moderated by firm-specific variables such as firm size, industry type and auditor firm type. Abdurrahman (2019) found that there is a significant effect of environmental financial accounting, ecological accounting, environmental cost accounting, and environmental management accounting on company value. Also, Iliemena (2020) found that environmental accounting practices have significant positive impact on both turnover and return on capital employed; while despite the impact on net profit was insignificant it was positive.

In Indonesia, Susanto & Meiryani (2019) found that environmental accounting information system has a positive and significant effect on firm performance and environmental performance. Arum (2019) found that the implementation of green accounting has an influence on earnings sustainability. Also, Ulupui et al. (2020) found that green accounting affects environmental performance of cement manufacturing companies.

In India, Omnamasivaya & Prasad (2017) found positive relationship between average environmental accounting disclosure index and average ROCE, average EPS, average DPS, average ROA, average ROE, average P/E, and average MPS; besides the study also found negative relationship between average environmental accounting disclosure index and average NPM, average DPR, and average ROS. Endiana et al. (2020) found that manufacturing companies in Indonesia are can apply green accounting by allocating appropriate environmental costs by earmarking a portion to carry corporate sustainability management system implementation so as to enhance financial performance.

However, some several studies find that there is no significant association between environmental accounting and profitability (Egbunike & Okoro, 2018); net profit of the oil and gas companies (Nkwoji, 2021); the performance of the activities of the oil and gas companies (Omesi & Berembo, 2020); economic performance (Rosaline & Wuryani, 2020). In addition, studies have found a negative relationship between green accounting and financial performance (Riyadh et al., 2020); return on capital and earnings per share (Adediran & Alade, 2013); profitability (Sumiati et al., 2022).

5. Conclusion

Current accounting systems are purely based on financial approach, without taking into consideration environmental information, such as environmental costs and companies’ costs (Gonzalez & Peña-Vinces, 2022). The link between green accounting and theperformance of firms is one of the most fundamental issues in accounting. Therefore, the purpose of this paper is to review the effect of green accounting adoption on companies' performance in developing economies. A total of 40 papers from 30 journals were systematically studied and classified. Besides the main findings stated above with regard to our literature review about the effect of green accounting on companies' performance in developing economies, several issues may be emphasized. Firstly, results are mixed, but works where a significant positive relationship between green accounting and performance is obtained are predominant. In fact, 21 studies concluded a positive effect of green accounting on performance.

Secondly, we noticed differents findings in studies carried out in different countries, this could logically explained by the difference in environmental variables, such as the difference in economic environment which led in different level of green accounting adoption, thirdly, even within the same country (such as indonisia and Nigeria) adopting GA also varries, this could be attributed to the differences in industries where these studies were carried out, since some industries are less polluting (such as beverage industy) comparing to other (such as pharmaceutical and oil industries), fourthly, we also found that findings even within the same industry varies, this could be attributed to the diffences in firms' size, and level of polluting emissons of each firm operating in the same industy.

Based on the above findings we suggest the following recommendations:
The necessity of implementing the 3R (Reduce, Recycle, Reuse) policy and stimulate corporation (especially those with high level of pollution) to gradually adopted greening strategy, through carrot and stick policy, by combining between granting tax concessions for corporations with green activities and imposing tax fines on polluting ones.(2) increase green awareness level among senior managers, accountants, and employees in general, by organizing and providing regular training and educational courses, and seminars to inform them of the lastest developments and trends in the field of promoting environement-friendly behavior and green accounting.(3) developing a generally accepted green accounting model amongst practitioners an stakeholders, through intensifying different interested parties efforts in the field of greening (accounting unions, accounting bords, accounting associations) to develop and issue green accounting standards that help accountant in overcoming barriers to green accounting adoption.

Limitations and Directions for Future Research

Firstly, harvesting green accounting implementation benefits in developing countries is still in its enfancy, therefore it would be benefitial for future studies to explore green accounting adoption antecedents, for example exploring environment awareness, religion commitement, environment protection association, government support impact on inceasing the pace of green accounting adoption. Secondly, green acoounting and performance reseachs in developing countries is still shrouwed in ambiguity and divergence in results. Therefore investigating the moderating effects of some variables would be fruitful in identifying this inconspicuous relationship, for example exploring the moderator role of environment information quality, strategic decisions quality, accountant competencies. It would also be benefitial to study the moderator role of firms' size, the nature of the firm's activity, firm's turnover, environment investement level… ect. Thirdly, since several previous studies focuses on a very limited number of developing countries (such as Nigeria, Indonisia, India, and Pakistan) exploring the nature of this topic in other developing countries such as Algeria, Egypt, Brazil and some other countries would be intriguing.

References

Abdurrahman, A. (2019). Impact of green accounting on company value: Evidence from the Nigerian companies. Arthatama, 3(1), 16-26.

Ahmad, M., Waseer, W. A., Hussain, S., & Ammara, U. (2018). Relationship between environmental accounting and non-financial firms performance: An empirical analysis of selected firms listed in Pakistan stock exchange, Pakistan. Advances in Social Sciences Research Journal, 5(1), 197-209.

Adediran, S. A., & Alade, S. O. (2013). The impact of environmental accounting on corporate performance in Nigeria. European Journal of Business and Management, 5(23), 141-152.

Almaliki, N. (2020). Impact of green accounting on improving environmental costs and performance: An analytical study from an academic point of view. International Journal of Engineering Technology Research & Management, 4(3), 127-143.

Arum, E. D. P. (2019). The implementation of green accounting and its implication on financial reporting quality in Indonesia. Journal Of Business Studies And Management Review, 3(1), 67-75.

Benson, N. C., Akabom Ita, A., Ethel Ohanya, I., & Adesola, F. A. (2021). Effect of green accounting on financial performance of oil and gas companies in Nigeria. Journal of University of Shanghai for Science and Technology, 23(12), 166-190.

Bouarar, A. C., Mouloudj, S., Makhlouf, A., & Mouloudj, K. (2022). Predicting Students' Intentions to Create Green Start-ups: A Theory of Planned Behaviour Approach. In SHS Web of Conferences (Vol. 135). EDP Sciences.

Byzzanthi, V., & Ermawati, W. J. (2021). Green accounting, financial literacy, and financial performance: A case study on Sukaregang Tannery Industrial Center in Garut, West Java Indonesia. Proceedings of the 1st International Conference on Sustainable Management and Innovation, 14-16 September 2020, Bogor, West Java, Indonesia (pp.1-17).

Carandang, J. C., & Ferrer, R. C. (2020). Effect of environmental accounting on financial performance and firm value of listed mining and oil companies in the Philippines. Asia-Pacific Social Science Review, 20(1), 117–134.

Che-Ahmad, A., Osazuwa, N. P., & Mgbame, C. O. (2015). Environmental accounting and firm profitability in Nigeria: Do firm-specific effects matter? IUP Journal of Accounting Research & Audit Practices, 14(1), 43-55.

Cohen, N., & Robbins, P. (2011). Green Business: An A-to-Z Guide. Thousand Oaks, CA: Sage Publications Inc.

Egbunike, A. P., & Okoro, G. E. (2018). Does green accounting matter to the profitability of firms? A canonical assessment. Ekonomski horizonti, 20(1), 17-26.

Endiana, I., Dicriyani, N. L. G. M., Adiyadnya, M. S. P., & Putra, I. P. M. J. S. (2020). The effect of green accounting on corporate sustainability and financial performance. The Journal Of Asian Finance, Economics, And Business, 7(12), 731-738.

Fogarassy, C., Neubauer, É., Mansur, H., Tangl, A., Oláh, J., & Popp, J. (2018). The main transition management issues and the effects of environmental accounting on financial performance–with focus on cement industry. Administratie si Management Public, (31), 52-66.

Gonzalez, C. C., & Peña-Vinces, J. (2022). A framework for a green accounting system-exploratory study in a developing country context, Colombia. Environment, Development and Sustainability, 1-25. https://doi.org/10.1007/s10668-022-02445-w

Hossain, M. M. (2019). Environmental accounting challenges of selected manufacturing enterprises in Bangladesh. Open Journal of Business and Management, 7(02), 709-727.

Iliemena, R. (2020). Environmental accounting practices and corporate performance: Study of listed oil and gas companies in Nigeria. European Journal of Business and Management, 12(22), 58-70.

Kitchenham, B. (2004). Procedures for performing systematic reviews. Keele University and National ICT Australia Ltd, 1-28.

Lusiana, M., Haat, M. H. C., Saputra, J., Yusliza, M. Y., Muhammad, Z., & Bon, A. T. (2021). A review of green accounting, corporate social responsibility disclosure, financial performance and firm value literature. In Proceedings of the International Conference on Industrial Engineering and Operations Management (pp. 5622-5640).

Magara, R., N. Aming, N., & Momanyi, E. (2015). Effect of environmental accounting on company financial performance in Kisii county. Journal of Economics, Management and Trade, 10(1), 1-11.

Makori, D. M., & Jagongo, A. (2013). Environmental accounting and firm profitability: An empirical analysis of selected firms listed in Bombay stock exchange, India. International Journal of Humanities and Social Science, 3(18), 248-256.

Malarvizhi, P., & Matta, R. (2016). Link between corporate environmental disclosure and firm performance: Perception or reality? The British Accounting Review, 36(1), 107-117.

Menike, L. M. C. S. (2020). Impact of environmental disclosure on firm performance: An empirical analysis of food, beverage and tobacco sector companies listed in Colombo Stock Exchange, Sri Lanka. International Journal of Academic Research in Business and Social Sciences, 10(10), 518-536.

Nguyen, T. D. (2020a). Factors influencing environmental accounting information disclosure of listed enterprises on Vietnamese stock markets. The Journal of Asian Finance, Economics, and Business, 7(11), 877-883.

Nguyen, T. K. T. (2020b). Studying Factors Affecting Environmental Accounting Implementation in Mining Enterprises in Vietnam. The Journal of Asian Finance, Economics, and Business, 7(5), 131-144.

Nkwoji, N. (2021). Environmental accounting and profitability of selected quoted oil and gas companies in Nigeria (2012-2017). Journal of Accounting and Financial Management, 7(3), 22-39.

Novovic Buric, M., Jaksic Stojanovic, A., Lalevic Filipovic, A., & Kascelan, L. (2022). Research of attitudes toward implementation of green accounting in tourism industry in Montenegro-Practices, and challenges. Sustainability, 14(3), 1-26.

Omnamasivaya, B., & Prasad, M. S. V. (2017). Does financial performance really improve the environmental accounting disclosure practices in India: an empirical evidence from nifty companies. African Journal of Economic and Sustainable Development, 6(1), 52-66.

Omesi, I., & Berembo, A. P. (2020). Social accounting and financial performance of oil and gas companies in Nigeria (2012-2017). European Journal of Business, Economics and Accountancy, 8(1), 29-41.

Riyadh, H. A., Al-Shmam, M. A., Huang, H. H., Gunawan, B., & Salsabila, A. A. (2020). The analysis of green accounting cost impact on corporations financial performance. International Journal of Energy Economics and Policy, 10(6), 421-426.

Rosaline, V. D., & Wuryani, E. (2020). Pengaruh penerapan *green accounting* dan *environmental performance* terhadap *economic performance*. Jurnal Riset Akuntansi Dan Keuangan, 8(3), 569-578.

Rounaghi, M.M. (2019). Economic analysis of using green accounting and environmental accounting to identify environmental costs and sustainability indicators. International Journal of Ethics and Systems, 35(4), 504-512.

Setthasakko, W. (2010). Barriers to the development of environmental management accounting: An exploratory study of pulp and paper companies in Thailand. EuroMed Journal of Business, 5(3), 315-331.

Shah, D., & Bhatt, V. (2022). Examine the mediating role of environmental concern and perceived benefit on adoption of green accounting with the emerging economy perspective. International Journal of Special Education, 37(3), 5243–5259.

Şimsek, H., & Ozturk, G. (2021). Evaluation of the relationship between environmental accounting and business performance: The case of Istanbul province. Green Financ, 3(1), 46-58.

Singh, S., Singh, A., Arora, S., & Mittal, S. (2019, October). Revolution of green accounting: A conceptual review. In 2019 2nd International Conference on Power Energy, Environment and Intelligent Control (PEEIC) (pp. 481-485). IEEE.

Sumiati, A., Susanti, S., Maulana, A., Indrawati, L., Puspitasari, D., & Indriani, R. (2022). Influence of green accounting and environmental performance on profitability. In International Conference on Social, Economics, Business, and Education (ICSEBE 2021) (pp. 145-151). Atlantis Press.

Susanto, A., & Meiryani, M. (2019). The impact of environmental accounting information system alignment on firm performance and environmental performance: A case of small and medium enterprises s of Indonesia. International Journal of Energy Economics and Policy, 9(2), 229–236.

Tran, N. H., Nguyen, T. T. H., & Nguyen, T. P. (2021). Factors affecting an application of environmental management accounting: A case study of the automobile industry in Vietnam. The Journal of Asian Finance, Economics and Business, 8(7), 509-516.

Tsui, C. S. (2014). A literature review on environmental management accounting (EMA) adoption. Web Journal of Chinese Management Review, 17(3), 1-19.

Tu, J. C., & Huang, H. S. (2015). Analysis on the relationship between green accounting and green design for enterprises. Sustainability, 7(5), 6264-6277.

Üçoğlu, D. (2022). Challenges and threats to environmental accounting and reporting. In Modern Regulations and Practices for Social and Environmental Accounting (pp. 1-25). IGI Global.

Ulupui, I., Murdayanti, Y., Marini, A., Purwohedi, U., Mardia, M., & Yanto, H. (2020). Green accounting, material flow cost accounting and environmental performance. Accounting, 6(5), 743-752.

Wachira, M. M. (2014). Factor influencing the adoption of environmental management accounting practices among firms in Nairobi, Kenya. Nairobi, Kenya: Doctoral dissertation, University of Nairobi.

Wahyuni, W., Meutia, I., & Syamsurijal, S. (2019). The effect of green accounting implementation on improving the environmental performance of mining and energy companies in Indonesia. Binus Business Review, 10(2), 131-137.